

**PERCEIVED STIGMA AND COMMUNITY INTEGRATION  
AMONG PEOPLE WITH SERIOUS MENTAL ILLNESS SERVED BY  
ASSERTIVE COMMUNITY TREATMENT TEAMS**

by

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## ABSTRACT

The relationship between perceived stigma and each of three aspects of community integration (i.e., physical, social, and psychological integration) was assessed in 95 clients with serious mental illness receiving assertive community treatment (ACT).

Measures of perceived stigma, community integration, perceived social support, and self-esteem, were administered to participants by trained mental health consumers. Psychiatric symptoms were rated by a trained research assistant in separate sessions with the clients. ACT program staff completed measures of psychosocial functioning.

Results indicated that ACT clients expect to be devalued and discriminated against by other community members. Although clients' involvement in day-to-day community activities (physical integration) did not appear to be related to perceived stigma, the more clients perceived themselves to be devalued and discriminated against, the less likely they were to interact with their neighbours (social integration), or to feel a sense of belonging in their communities (psychological integration). As well, clients' sense of belonging appeared to be more strongly associated with their perceptions of being stigmatized than did their contact with neighbours. Self-esteem did not mediate the relationship between perceived stigma and community integration.

These findings support the rationale underlying community treatment programs in general. However, despite being physically present in the community, and despite the intensive support they receive, clients strongly believe that they will be rejected by other community members. Whereas placing clients in independent living situations might be expected to eventually inculcate them with a sense of belonging, it appears that the perception of being stigmatized may interfere with this fundamental aspect of community adjustment. Openly addressing stigma-related issues with ACT clients should be among the priorities to furthering their participation as full and equal community members.

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## **DEDICATION**

**This dissertation is dedicated to  
the very special individuals who have shown me the myriad ways in which  
dignity transcends even the most overwhelming obstacles.**

**This is for you, George, René, Liz, Paula, Loretta, Michael, André...**

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In the wake of the widespread availability of psychoactive medication and deinstitutionalization policies throughout the Western world, the large psychiatric hospitals have experienced a steady decline in their inpatient populations since the 1960's. Many former inpatients were moved from the hospital to special care homes in the community despite criticisms targeting the negative sequelae which awaited transplanted patients. The complex social problems arising from mental hospital depopulation included not only inadequate social supports, poor housing options (Kearns & Taylor, 1989), a lack of basic living skills, poverty, unemployment, and problems with aftercare, but also stigmatization within the community (Bachrach, 1984; Herman & Smith, 1989; Davidson, Hoge, Godleski, Rakfeldt, & Griffith, 1996; Lamb, 1981; Wilson, 1993).

The circumstances which shaped early deinstitutionalization, including the demographic characteristics of the seriously mentally ill, have changed considerably since the 1950's (see Mechanic & Rochefort, 1990, for review). Although the climate in which deinstitutionalization was conceived no longer exists, the term continues to provide a vehicle for criticism by observers who point to serious social problems which compound the stresses faced by individuals with a serious mental illness. Despite efforts to provide community-based services to people with psychiatric disabilities, the conditions (e.g., poverty, inadequate housing) people find themselves in following discharge from a psychiatric hospital, continue to be major sources of concern (Wolf, 1997).

Although considerable effort has focused on facilitating community integration of people with serious mental illness (Aubry & Myner, 1996; Aubry, Tefft, & Currie, 1995a;



see also Fellin, 1993; Goering, Durbin, Foster, Boyles, Babiak, & Lancee, 1992), this objective has yet to be realized. Notwithstanding the limitations imposed as a result of, among other things, inadequate housing, poverty, and unemployment, a common barrier to community adjustment identified by people with serious mental illness is their perception of being stigmatized (Deweese, Pulice, & McCormick, 1996; Herman & Smith, 1989; Kearns & Taylor, 1989; Penn & Martin, 1998; Pulice, McCormick, & Dewees, 1995). For example, Dewees et al. (1996) reported that clients, families, and service providers, cited stigma as a significant obstacle to clients making their way in the community. Similarly, Nikkonen (1996) reported that the fear of being called "mental cases" by other community residents had a deleterious effect on deinstitutionalized psychiatric patients in Finland, causing many clients to resist leaving their homes unless it was unavoidable. Finally, a consistent finding is that the social networks of community-resident clients with serious mental illness are generally restricted to other members of their stigmatized group (e.g., group home residents, Aubry & Myner, 1996; Goffman, 1963), and to non-members who possess special understanding and knowledge of the group, such as program staff (Goering et al., 1992; Goffman, 1963; Pulice et al., 1995).

The importance of stigma as an obstacle to adjusting to community living among persons with seriously mental illness has also been identified in Canadian studies (Herman & Smith, 1989; Page & Day, 1990). For example, in their brief chronicle of the decline in the institutionalized mentally ill population in Canada, Herman and Smith (1989) studied a sample of 139 formerly institutionalized patients to uncover the day-to-day realities of their living situations. The intention of the study was to evaluate the

effects of deinstitutionalization from the patient's perspective. Problems described by patients included not only inadequate housing, lack of basic living skills, poverty, unemployment, and problems with aftercare, but also their perception of being stigmatized.

### Community-based Care

Care for the deinstitutionalized seriously mentally ill, and a growing proportion of young adults with severe mental illnesses who have never been institutionalized (Mechanic & Rochefort, 1990), is now primarily the responsibility of community-based support services. National mental health reform initiatives require that services demonstrate cost effectiveness while optimizing the quality of the services provided. Thus, the pressure to account for mental health services, coupled with limited financial resources to provide these services, has established the need to assess the care provided to psychiatric patients in community settings. Not surprisingly, the need for outcome evaluations has gained momentum.

In response to the demands for community-based care for people discharged from psychiatric hospitals, several programs have emerged (see Baronet and Gerber, 1998, for review). Among the major goals of community programs (i.e., mental health services) for people with serious mental illness are community tenure and integration into the community. The latter includes optimizing the ability of clients to fulfill the activities of daily living (physical integration), engage in normal social interactions with non-disabled neighbours (social integration), and feel a sense of belonging in their communities

(psychological integration) (Aubry & Myner, 1996).

Almost a decade ago, Aviram (1990) noted the emerging consensus among both critics and supporters of deinstitutionalization concerning the need to establish a comprehensive community system of treatment and care for people discharged from mental hospitals. While pessimistic that such an approach would mitigate the negative effects of “deeply embedded structures” of American society (e.g., individualism, or, the tendency to blame the disadvantaged for their predicament; Phelan, Link, Moore, Stueve, 1997), Aviram advocated centralized agency control and increasing resources to enhance the provision of services for people with serious mental illness. Among the programs cited as having the potential to be considered in this regard was the assertive community treatment model of service delivery (ACT, Stein & Test, 1980).

Assertive community treatment is characterized by intensive and continuous support services which are provided directly to clients in their home environments (see Methods). With the advent of programs such as ACT, hospitalization rates among clients with serious mental illness have decreased substantially (Baronet & Gerber, 1998; Burns & Santos, 1995; McGrew, Bond, Dietzen, McKasson, & Miller, 1995). Indeed, this particular outcome represents the most consistent and significant finding for ACT, hence its widespread dissemination and endorsement by multiple stakeholders in the care of the seriously mentally ill. In general, studies of assertive community treatment have emphasized decreased hospitalization rates, or, conversely, increased community tenure, rather than actual integration into the community.

Assertive community treatment has also been shown to have positive effects on

service use patterns and symptomatology. Specifically, the program appears to decrease recidivism and the use of emergency mental health services (Baronet & Gerber, 1998). Further, medication adherence and involvement in treatment are improved. These findings are attributed to the intensity of service provided to ACT clients, including continuous support and frequent staff visits to clients' homes.

Unfortunately, findings concerning the overall impact of assertive community treatment on community adjustment are unremarkable (Baronet & Gerber, 1998; Essock, Drake, & Burns, 1998). Whereas social functioning is reportedly positively affected by assertive community treatment, the measures employed have varied from study to study, and results tend to reflect definitions of social adjustment tied to the instruments used (e.g., Lehman Quality of Life Interview, Social Relations sub-scale, see Lafave, de Souza, & Gerber, 1995; Social Adjustment Scale, SAS, Weisman, Klerman, Paykel, Prusoff, & Hanson, 1974). Moreover, social adjustment defined in terms of social contacts does not appear to be affected by ACT (e.g., Sands & Caan, 1994).

### Mental Illness Labeling and Community Integration

Despite extensive documentation of the social stigma applied to persons with serious mental illness (e.g., Leete, 1992; Penn, Guynan, Daily, Spaulding, Garbin, & Sullivan, 1994; Penn & Martin, 1998; Phelan, Bromet, & Link, 1998; Skinner, Berry, Griffith, & Byers, 1995), and considerable evidence that the perception of being stigmatized has a detrimental effect on an individual's well being, self-esteem, social support networks, and employment opportunities (e.g., see Gallo, 1994; Link, 1987; Link,

Cullen, Mirotznik, & Struening, 1992; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989; Link, Cullen, Struening, Shrout, et al., 1987; Link, Mirotznik, & Cullen, 1991; Link, Struening, Rahav, Phelan, & Nuttbrock, 1997; Miller & Metzner, 1994; Rosenfield, 1997), little effort has been made to examine the relationship between perceived stigma and how well people with a serious mental illness are integrated into their communities. Whereas a number of investigators have identified stigma among the hurdles faced by the seriously mentally ill (e.g., Herman & Smith, 1989; Kearns & Taylor, 1989; Penn & Martin, 1998; Pulice et al., 1995), apart from the work of Link et al. (1989) connecting perceived stigma to compromised social support networks, there appear to be no empirical investigations of the relationship between client perceptions of stigma and the extent of their community integration.

Negative consequences associated with stigma have been predicted by labeling theory (Scheff, 1966), which maintains that the label of mental illness sets up social conditions that promote illness behaviour. More recently, Link et al. (1989) proposed a modified model of the effects of labeling that emphasizes the psychological and social consequences associated with the stigma produced by the mental illness label.

Adjustment outcomes relevant to persons with serious mental illness that may be judged to be adversely affected by stigma include lowered self-esteem, social withdrawal, and exacerbation of an existing disorder, or illness relapse. Further, lowered self-esteem, related to stigma, has been hypothesized to limit or restrict a person's social and psychological adjustment (e.g., employment opportunities and overall well-being; see Link et al., 1989, and Rosenfield, 1997, respectively). Thus, as a result of being

stigmatized, the ensuing alterations in self-concept might also be expected to mediate a person's community integration, including their physical activities, social interactions with neighbours, and sense of belonging.

As indicated earlier, current reviews of outcome evaluations of assertive community treatment underscore a significant increase in community tenure among clients of these programs (Baronet & Gerber, 1998; Burns & Santos, 1995; McGrew et al., 1995). Given the attenuating effect of assertive community treatment on relapse and rehospitalization, this approach to service delivery has demonstrated significant cost savings and is poised to become the model of choice throughout Ontario. Thus, it would appear timely to focus attention on those outcome variables, such as community integration, which will serve to further elucidate our understanding of the quality of clients' adjustment to community living within an assertive community treatment framework.

Consistent with modified labeling theory, it is not unreasonable to suggest that identifying with the stigmatized status of the psychiatric patient role, even after relatively long tenure in the community (Robey, 1994), adversely affects clients' day-to-day presence, their social interactions with neighbours, and their sense of belonging, in the community. Thus, the effectiveness of community-based interventions aimed at increasing community integration among people with serious mental illness might be impeded by client perceptions of stigmatization. Moreover, failing to address issues of stigmatization may serve to reinforce the sense of marginalization that clients experience in the community (Pulice et al., 1995).

Whereas it must be acknowledged that factors that influence community integration among persons with serious mental illness are complex, including environmental and social dimensions, the present study was primarily interested in the relationship between client perceptions and the extent of their community integration. Specifically, the present study examined the relationships between perceived stigma and three dimensions of community integration (i.e., physical, social, and psychological integration), among people with serious and persistent mental illness. In light of the hypothesized role of self-esteem in mediating adjustment outcomes among stigmatized individuals (Link, 1987; Link, et al., 1989; Rosenfield, 1997; Westbrook, Bauman, & Shinnar, 1992), another objective of the study was to explore self-esteem as a possible explanatory mechanism in the relationship between perceived stigma and community integration.

In the sections that follow, a historical overview of stigma and mental illness is provided. Next, the social and personal contexts of psychiatric stigma are considered, including the attitudes held by the general public, and their impact on the stigmatized individual. The psychological labeling theory is then highlighted, and empirical evidence presented documenting the relevance of perceived stigma in the lives of persons who are labeled mentally ill. Finally, a review of the correlates of community integration and the potential role of stigma as a barrier to integration is presented.

## Historical Overview of Stigma and Persons with Serious Mental Illness

The stigma experienced by people with severe mental illness has been well documented in the sociological, social psychological, and psychiatric literature (e.g., Cohen, 1990; Page & Day, 1990; Link, Cullen, Mirotnik, & Struening, 1992; Penn & Martin, 1998; Skinner, Berry, Griffith, & Byers, 1995). Of Greek origin, the word stigma was initially used to refer to outward physical evidence (e.g., branding) which identified an individual as being of lower moral status (Goffman, 1963). Categories of people such as slaves, criminals, and traitors, were thus stigmatized in order to make the status of such individuals readily apparent to others. What we today describe as reflecting a stigma was in earlier eras a natural part of the social cultural landscape, invoked in order to facilitate identification and handling of persons considered threatening in one way or another (Fabrega, 1990). Although a thorough exposition of historical movements contributing to the stigmatization of the seriously mentally ill is beyond the scope of the present study, a cursory overview is presented to highlight significant trends which may be pertinent to our understanding of current psychiatric stigma (the interested reader is referred to Dain, 1992, 1994; Fabrega, 1990, 1991, for more comprehensive historical analysis).

The prevalence of mental illness across cultures, due to its etiological link to both biological and social aspects of the human condition, gives rise to wide-ranging cultural interpretations and approaches as to how mental illness should be addressed. In this sense, mental illness is a cultural phenomenon, and consequently its' social implications



are culturally determined. In tracing the roots of stigma in the Classical/Hellenistic academic tradition, Fabrega (1990) noted that a wholistic understanding of all types of illness prevailed, which viewed illness generally as arising from various humoral imbalances (see also Mora, 1992). However, mental illness was also understood in the larger Grecian social arena, including theatrical productions, as resulting from the punishment of the gods for acts of impiety, or sacrilegious behaviour, and consequently could be construed as requiring religious purification.

Simon (1992) suggests that stigma was intimately linked to the sense of shame associated with illness (mental or otherwise), and that all treatments were designed to reduce the shame and stigma that illness produced for the individual and his or her family. Alternatively, the treatments, which may have included lifestyle changes (improved eating habits, exercise), medicines, group ceremonial activities, and visits to shrines for ritual purification and dream interpretation (Simon, 1992), may also simply represent efforts to treat disease and distress experienced by the person, rather than evidence of stigmatization. In any event, negative connotations do not appear to have been restricted exclusively to mental illness.

Of note, however, according to Fabrega (1990), are the Greek values of reason, individuality, and civic responsibility, held during this era. These values could be raised as hallmarks of the healthy and virtuous citizen, serving at the same time to set apart, and ultimately devalue, incongruent behaviours and characteristics, such as those exhibited by individuals with mental illness. Still, overt ridicule, rejection, and condemnation of persons with psychiatric illness, was "relegated to those individuals who were poor and

chronically ill, ... who represented adaptive failures, inability to exist independently, and failure to uphold standards of appearance, dress, and cleanliness” (p. 295).

Indeed, inasmuch as the cult of individualism is still evident in modern Western society, and particularly in North American culture (Aviram, 1990), in many respects, the poor seriously mentally ill continue to epitomize society’s “adaptive failures”. Fabrega suggests that the cultural developments of ancient Greece, while not evidence of stigma being associated with mental illness exclusive of other social factors (i.e., poverty), may represent precursors to future stigma as applied to persons with mental illness.

To the prevailing Classical/Hellenistic perspective, that emphasized humoral imbalances and/or social failure in the case of chronic mental illness, Christian theology added demonism, moral perversion, promiscuity, and sin (Fabrega, 1990; Mora, 1992). Christian Medieval influence over rational and naturalistic explanations for disease promoted the notion that mental illness “represented a test of God’s intentions, a painful ordeal in preparation for eternal salvation, a warning through example of the power of God, or a frank punishment for evil doings” (Fabrega, 1990, p. 299). Association between the demonic and mental illness was established over this period, and insofar as sin was considered the cause of mental illness, individuals with mental illness were indeed stigmatized (Dain, 1992).

Still, religious interpretations did not prevail to the complete exclusion of naturalistic ones, and according to Mora (1992), the Middle Ages saw people with mental illness as tolerated, especially when compared with the discrimination experienced by lepers and Jews. Moreover, the stigmatizing impact of Christianity, expressed in terms of

banishment, condemnation, and incarceration, applied mainly to individuals who were poor or powerless. In this regard people with chronic mental illness, perhaps rendered destitute over time, were also stigmatized.

By the Renaissance, the Medieval Christian legacy of guilt and individual responsibility for one's actions, made it possible to associate mental illness with other forms of unacceptable behaviour of the day, such as alcohol abuse. As well, political conflicts between Catholics and Protestants in early modern 15<sup>th</sup> century Europe contributed to the persecution of people, primarily women, accused of witchcraft. These individuals may have been over-represented by already marginalized older women, some of whom may have been mentally ill (for enlightening reviews and discussion of demonic possession and witch persecutions from a social psychological perspective, see Spanos, 1978; Spanos, 1983; Spanos & Gottlieb, 1979). Inasmuch as these people were persecuted for alleged witchcraft, Mora (1992) suggests that, while not evidence of stigma towards mental illness, per se, these events may have contributed to stigmatizing notions more prevalent in ensuing decades.

### The Stigma of Poverty and Mental Illness

As may be apparent with regard to the development of stigma in relation to mental illness, Fabrega (1991) distinguishes between the prevailing views of mental illness among different social classes. Throughout history, mentally ill members of the wealthy and intellectual elite were more likely to be viewed in terms of abstract, literary, metaphorical interpretations of mental illness, and handled with naturalistic explanations

of behaviour which considered social and psychological factors. In contrast, poor persons with mental illness were likely to be exposed to harsher realities of life outside the protection of wealth and/or supportive family confines. For example, poor mentally ill individuals were often ridiculed, mocked and even stoned in the streets in ancient Israel whereas affluent persons with a mental illness tended to be cared for within the protective isolation of their respective families (Fabrega, 1990).

Early modern and modern views of mental illness were multidimensional in the sense that social class, poverty, political and economic factors, and competing medical and psychiatric approaches to illness, greatly affected how persons with mental illness were handled. The Church continued to have a strong influence during this period, but central governments were also developing and consolidating their own power. Consequently, and in the face of growing populations, urbanization, and increasing numbers of poor people, the preservation of social order and safety became paramount (Fabrega, 1991).

Whereas the seriously mentally ill may have been viewed as socially undesirable and even dangerous in the rural landscape, they were usually isolated individuals, and more or less tolerated. With the growth of urban centers, and attendant efforts to establish administrative guidelines for these emerging city states, classes and groups of people were identified, and consequently stigmatized, as posing a potential threat to social order. These groups typically included the poor and the destitute. Hoards of poor people, exposed by the social and economic inequities of modernizing cities of the Renaissance and early modern Europe, were a major issue for social control. Renaissance

views of the poor as masterless, rootless vagabonds, and as such responsible to no one, branded them a serious threat to society. Ironically, as Fabrega (1991) notes, this view contrasts sharply with the notion of the spiritually rich pauper who embodied the teachings of Christ and the Franciscan monks. The poor had become objects of fear, and since they were considered less than human, rationalizations for incarceration and cruel treatment ensued (Fabrega, 1991). By association through poverty, poor chronically mentally ill persons were similarly viewed and, in addition, subject to interpretations of illness filtered through Christianity and Catholicism, replete with sin and demonism. As a group, the mentally ill were now officially stigmatized, and dealt with through formalized policies, eventually leading to forced incarceration, brutalization, and total institutionalization.

### Asylum

In the modern European era, the handling of the mentally ill as a distinct social category took place through segregation in asylums. Brizendine (1992) suggests the reform movement and the moral therapies which took hold in industrializing England reflected a humanizing element in the approach to treatment of the mentally ill, and that this also reflected changing views about the stigma of mental illness. However, as welcome as this humanizing element might have been, it does not necessarily represent a change in the stigmatized status of persons with a mental illness, only in the socially sanctioned response to these individuals. Indeed, "humanizing elements" were not exclusive to the arena of mental illness, but more likely a reflection of a more pervasive

and evolving social conscience at work at the time.

The growth of psychiatry as a specialized discipline within medicine was also significant in the history of psychiatric stigma and, according to anti-psychiatry revisionists, combined with the total institution to serve the political and self-interests of the profession (Dain, 1994; Fabrega, 1991). Indeed, a common theme of the antipsychiatry movement, dating back to the late 18<sup>th</sup> century, has been the objection to psychiatry as a “hospital-centered medical specialty legally authorized to institutionalize and treat patients” (Dain, 1994, p. 1011). As such, total asylums provided complete control over a group of individuals, guaranteed to be supplied through the political and “policing functions of the modern nation state” (Fabrega, 1991, p. 116). With respect to the impact of institutionalization on modern psychiatric stigma, the social isolation and alienation of people with serious mental illness was effectively reinforced by chronic segregation.

An additional source of social discredit was applied to people with mental illness at this time, arising from the intimation of deception, or fabrication, associated with their inability to work, or to fulfil civic responsibilities such as military service. Indeed, Fabrega (1991) credits malingering with fueling modern day efforts to determine objective biomedical markers for mental disease, as well as current requirements that disability be legitimized by the state and by insurance carriers.

In sum, the stigmatization of persons with mental illness in modern Western cultures appears to have emanated from a complex historical evolution combining the Greek cult of the individual, Medieval Christian interpretations of illness as a “turning

away from God” (revived by 19<sup>th</sup> century evangelists), Renaissance social rationalizations for vilifying the poor, the social segregation of the asylums, and the persistent undercurrent of social failure and inability (or perceived refusal) to fulfil social and civic responsibilities. These factors have resulted in a powerful stigma that continues to impact the lives of people with mental illness generally, and those with serious mental illness in particular, as they endeavour to make their way in the community.

### Stigma and the Deinstitutionalized Seriously Mentally Ill

In this era, the term “stigma” refers less to the sign of disgrace associated with a particular social status, than to the disgrace itself. Stigma is defined as the “situation of the individual who is disqualified from full social acceptance” (Goffman, 1963).

Goffman described 3 distinct types of stigma, pertaining to a) physical deformities, b) race and religion, typically transmitted through family lineage and equally contaminating all group members, and c) individual character. The latter, of interest in the present study, refers specifically to blemishes of character such as weakness or “unnatural passions”, considered to be associated with a criminal record, addiction, unemployment, and mental illness.

#### The Social Context of Psychiatric Stigma - The Disqualification of Persons with Serious Mental Illness

Symptoms of psychiatric illness are viewed as frightening, shameful, dangerous, at times fabricated, and largely incurable. Persons who are mentally ill are described as lazy, weak, unpredictable, unstable, dependent, and irrational (Fabrega, 1990).

Newspaper portrayals commonly depict persons with mental illness as lower-class, prone to “dangerousness, unpredictability, dependency, anxiety, unproductiveness, and vagrancy” (Page & Day, 1990, p. 56). It should be noted that these descriptors are reminiscent of those applied to poor and destitute mentally ill persons of the Renaissance



period.

Hyler, Gabbard, and Schneider (1991) discuss the role of the visual media in contributing to modern day psychiatric stigma. The authors contend that stereotypic depictions of the mentally ill in films have had a negative effect on views held by the general public. Characterizations of mentally ill persons as comical, rebels, homicidal maniacs, sexual predators, and so forth, are typical of how mental illness is portrayed in popular culture. Similarly, the news media often fails to present a balanced perspective on mental illness, choosing instead to exploit sensational stories involving violence to capture audiences (Mayer & Barry, 1992). Indeed, from their review of evidence concerning psychiatric stigma, Penn and Martin (1998) determined that fear of violence is currently a major factor in Western society's attitude towards mental illness, in spite of empirical evidence that shows people with serious mental illness to be more often victims than perpetrators of crime (Lafave, Pinkney, & Gerber, 1995).

Although the salience of stigma in the lives of people with serious mental illness has been questioned (e.g., Crocetti, Spiro, & Siasi, 1974; Gove, 1984), efforts to dispel psychiatric stigma attest to its relevance (Cohen, 1990; 1993; Kommana, Mansfield, & Penn, 1997; Levy, 1993; Mayer & Barry, 1992; Penn, Guynan, Dally, Spaulding, Garbin, & Sullivan, 1994), as do reviews of empirical studies that confirm negative public attitudes (e.g., Page & Day, 1990; Penn & Martin, 1998). In their review of the status of psychiatric stigma in Canadian society, Page and Day (1990) cite discrimination against people with mental illness in the housing arena, among the attitudes of mental health professionals, and by the media (see also Cohen, 1990; Leete, 1992; Penn & Martin,

1998).

It is of interest to note that, when asked, the public tends to articulate accepting attitudes towards people who are mentally ill (Aubry, Tefft & Currie, 1995b), but that their actions, as landlords, restaurant owners, or educational institutions indicate rejection at the behavioural level (Leete, 1992; Page & Day, 1990). Page and Cowley (1979), and Page (1977; 1983), used the telephone to determine the attitudes of restaurants and landlords, respectively, towards accepting persons with mental illness labels. By attempting to secure restaurant reservations or rental accommodation for persons with mental disabilities over the telephone, the investigators demonstrated that the public will reject persons with mental illness. However, they also noted the public tendency to reject any individual seen as different and thus potentially problematic. Penn and Martin (1998) found stigmatization to be implicated in compromised employment and housing options (Farina & Felner, 1973; Link, 1982; Page, 1977), family distress (Phelan, Bromet, Link, 1998; Wahl & Harman, 1989), and public ambivalence concerning the acceptance of people with serious mental illness into the community (Farina, Thaw, Loevern, et al., 1974; Link & Cullen, 1983). Thus, although society appears to have increased its verbal acceptance and decreased its visible discrimination against persons bearing the mental illness label, less visible and more subtle forms of discrimination appear to be prevalent.

The mental illness label and rejection. Controversy has also surrounded the question of whether or not the mental illness label is responsible for rejection. Like Goffman (1963), Scheff (1966) proposed that psychiatric labels influence the lives of people with serious mental illness. Scheff's (1966) socio-cultural perspective of labeling

sparked debate between supporters and critics of his labeling theory, and, to a large extent, continues to influence stigma research (Phelan, Link, Moore, & Stueve, 1997; Tepper, 1994; Witzum, Margolin, Bar-On, & Levy, 1995).

Critics of the labeling perspective have argued that the circumstances of the mentally ill are far more dependent upon illness severity and treatment than on labels (e.g., see Gove, 1980; 1982). Thus, social skills deficits, illness-related behaviours (e.g., responding to internal stimuli), or the physical appearance of persons with serious mental illness (e.g., impoverished clothing, motor slowing), are considered to cause rejection from others (Aubry et al., 1995a; 1995b). Citing research indicating accepting attitudes of the public towards the mentally ill, critics have argued that societal attitudes toward the seriously mentally ill are not overly negative, and further that persons with mental illness experience only temporary stigmatization from others (see Gove, 1982; and Weinstein, 1983, for reviews). For example, Crocetti et al. (1974) reported that a sample of automobile workers were willing to work with, rent rooms to, or fall in love with, former psychiatric patients. Thus, critics maintain that it is how an individual behaves, rather than labels, that result in rejection of the mentally ill.

Still, examples noted earlier (e.g., Page & Day, 1990) indicate that public attitudes towards mental illness are indeed rejecting, independent of an individual's behaviour (see also Link, Cullen, Mirotnik, & Struening, 1992; Penn & Martin, 1998). Similar conclusions have been drawn from analogue studies of public attitudes towards mental illness involving interpersonal situations. For example, Sibicky and Dovidio (1986) randomly assigned undergraduate psychology students into mixed male and female pairs.

In half of the pairs, one member was told they were about to interact with a person who was attending the psychological therapy clinic on campus. The other member of the pair was told nothing. Evaluations by the subjects of written profile information conducted prior to the interaction indicated that the belief about their (naive) partner's involvement in therapy affected the assessment of the labeled partner. Secondly, audio tapes revealed that subjects' interaction styles were affected by their expectations, and actually evoked certain behaviours in the naive labeled partners that confirmed those expectations.

Psychiatric stigma as both general and specific. Skinner, Berry, Griffith, and Byers (1995) investigated both the generalizability and the specificity of the stigma associated with the mental illness label. The generalizability of psychiatric stigma pertains to the prevalence of stigmatizing attitudes and beliefs held across a variety of groups of people, including the general public, former as well as current psychiatric patients, and even mental health professionals working with seriously mentally ill clients. The generalizability of the stigma of mental illness would also be assumed to apply across the broad spectrum of social roles that encompass family and parenting roles, work, and education, and to have no regard for level of psychological functioning. The specificity of the mental illness stigma refers to the degree to which stigma is associated with a mental illness label, as opposed to any negatively viewed label, per se (e.g., ex-convict).

Skinner et al. (1995) employed Link & Cullen's (1983) methodology to explore the generalizability and specificity of the stigma associated with mental illness. This method requires respondents to indicate their opinions concerning the way "most people" view people with mental illness. Thus, responses are not construed as personal, but only

as respondents' opinions concerning the views of others. In this way, respondents are not required to conceal their true personal feelings in the service of social desirability. Using this methodology, Skinner et al. (1995) determined that whereas the generalizability of the stigma associated with the mental illness label had diminished somewhat over a 25 year period, this improvement was more or less restricted to ex-mental patients, and did not appear to extend to persons with severe mental illness.

In sum, people with serious mental illness often must cope with multiple stigmas in addition to that of mental illness; including poverty and homelessness (Cohen, 1990; 1993; Phelan, Link, Moore, & Stueve, 1997), unemployment (McFadyen, 1995; Scheid, 1993), substance abuse (Cohen, 1990), and public fear (Penn & Martin, 1998). As well, stigmatizing attitudes are often exacerbated by the media (Hyler et al., 1991) and perpetuated by mental health professionals (Cohen, 1990; 1993; Fabrega, 1990; Leete, 1992; Witztum, Margolin, Bar-On, & Levy, 1995). Consequently, individuals carrying the mental illness label may experience rejection in a broad range of social jurisdictions, as others who learn they have been labeled also come to view and behave towards them negatively.

### The Personal Context of Psychiatric Stigma - The Disqualification of the Self

Goffman (1963) stressed that a "pivotal fact" in the social context of stigma is that "the stigmatized individual tends to hold the same beliefs about identity" as do the rest of us (p. 6). Consequently, stigmatized individuals are acutely aware of how others view them, since they have incorporated the same standards from the larger society, and apply

them in the same way. Whereas the stigmatized person may experience rejecting behaviour from others, once the person begins to think of himself/herself as being stigmatized, he/she may come to behave in ways that also reflect a negative valuation of self. Thus, the stigma of mental illness arises through a “two-role social process” (Goffman, p. 138) that requires the perspective of the individual as well as the perspective of society at large.

Labeling theory. Labeling theory, as originally advanced by Scheff (1966), proposed that once an individual receives the official label of mental illness, he or she experiences consistent responses from others, such as devaluation and rejection (see Figure 1).

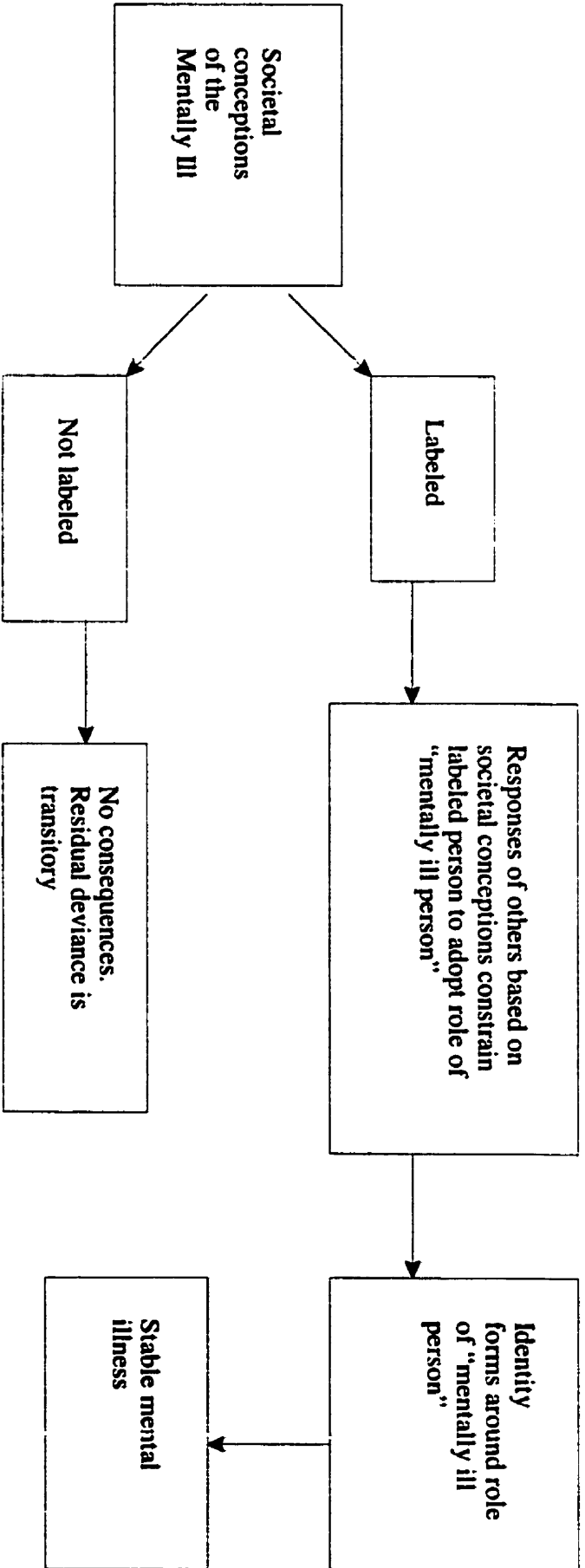
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These responses, which are based on societal conceptions of mental illness, are considered to shape behaviour such that the individual adopts the role of a mentally ill person.

For instance, individuals who are perceived as refusing to accept a psychiatric diagnosis, or medication, for example, may be labeled “non-compliant” in addition to being labeled mentally ill, which may adversely influence the treatment they receive from service providers (e.g., rejection, fewer privileges, etc., see Cohen, 1993). However, according to Scheff, once the individual accepts the illness label and forms a new identity



**Figure 1.** Portion of Scheff's mental illness labeling model as described by Link et al. (1989).

around it, chronic mental illness results (Scheff, 1966, p.82). Early labeling theory, then, posited that societal reactions play an etiological role in mental illness.

Scheff (1966) based his argument on Mead's (1934) theory of how individuals form internalized conceptions of socialization (see Scheff, 1973, for extended discussion). Briefly, people learn the values of the community regarding many aspects of their environment, including mental illness. Thus, negative attitudes towards the mentally ill are learned early in childhood and are continuously reinforced by the popular culture. Although these attitudes are internalized, they do not, for the most part, threaten the individual. It is only once the individual is assigned the label of mental illness that the cultural values associated with the label become personally relevant and are no longer benign.

According to Scheff (1966), an important negative consequence of the labeling process is that labeled individuals may devalue themselves because, once labeled, they quickly come to realize they belong to a category that most people view negatively. Self-esteem may be affected as the person turns the negative view of others (i.e., the cultural stereotype) onto themselves. Hence, the person may become concerned (e.g., fear of rejection) as to how others will respond to him/her, and as a result, may engage in behaviour that leads to strained interaction. For instance, expectations of rejection were examined by Farina et al. (1968; 1971; cited in Link et al., 1992), who randomly assigned subjects to one of two conditions. In one condition, subjects believed that a person with whom they were about to interact had been told they had been hospitalized for mental health reasons. In the other condition, subjects were given no such information. Even



though the interaction partners were given neutral instructions in both conditions, those subjects who believed their partners to be aware of their hospitalization behaved in ways that ultimately provoked negative responses (e.g., rejection).

According to Crocker and Major (1994), the experience of being labeled places individuals into a state of ambiguity. Apart from the negative consequences of stigma generally, people with stigmatizing conditions are not certain if the feedback they receive is due to stigma or to other personal attributes. Since having a stigmatized identity becomes a pivotal social reality for labeled individuals, they may assume that their stigma affects all interactions in which they are involved. Kleck & Strenta (1980; cited in Crocker & Major, 1994), demonstrated that even when subjects falsely believe they possess a stigmatizing condition, they attribute the treatment they receive to the stigma. In this experiment, makeup was used to create a scar on subjects' faces, which was subsequently removed by the experimenter, unbeknownst to the subject. Subjects then interacted with another individual, still believing they were disfigured. Even though the partners in these interactions had no awareness of any stigmatizing condition, the subjects reported that stigma had affected how they had been treated (Crocker & Major, 1994).

Modified labeling theory. While avoiding the debate regarding the etiological role of labels in mental illness, Link and colleagues (Link, 1987; Link et al., 1989) proposed a "modified labeling theory" that maintained that the stigma associated with the mental illness label, rather than the label per se, is responsible for negative consequences in the lives of people with mental illness (see Figure 2).

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Consistent with Scheff's (1966) model, Link et al. (1989) proposed that "individuals internalize societal conceptions of what it means to be labeled mentally ill" (p. 402). However, Link et al. suggested that it is the internalized conceptions of (1) the extent to which the person believes that mental patients will be devalued (i.e., devaluation), and (2) the extent to which the person believes that patients will be discriminated against (i.e., discrimination), that form the basis for the process of stigmatization.

The personal relevance of internalized conceptions about the mentally ill may first arise for the person from the labels acquired through treatment contact. At this stage, the person's belief that others will devalue and discriminate against someone in treatment for a psychiatric disorder (i.e., perceived stigma) becomes salient (see Figure 2).

In response to an official label acquired through treatment contact, patients may try to protect themselves against their stigmatized status by either concealing their treatment history (i.e., secrecy), limiting social interactions to those who know about and tend to accept the stigmatizing condition (i.e., withdrawal), or educating others in the hopes this will ward off negative attitudes. Link (1987) argued that these efforts at self-protection strongly suggest that patients see stigmatization by others as a threat. Other consequences of labeling may include shame (Scheff, 1984), lowered self-esteem (Link, 1987), and the feeling of being different from others (Link et al., 1989).

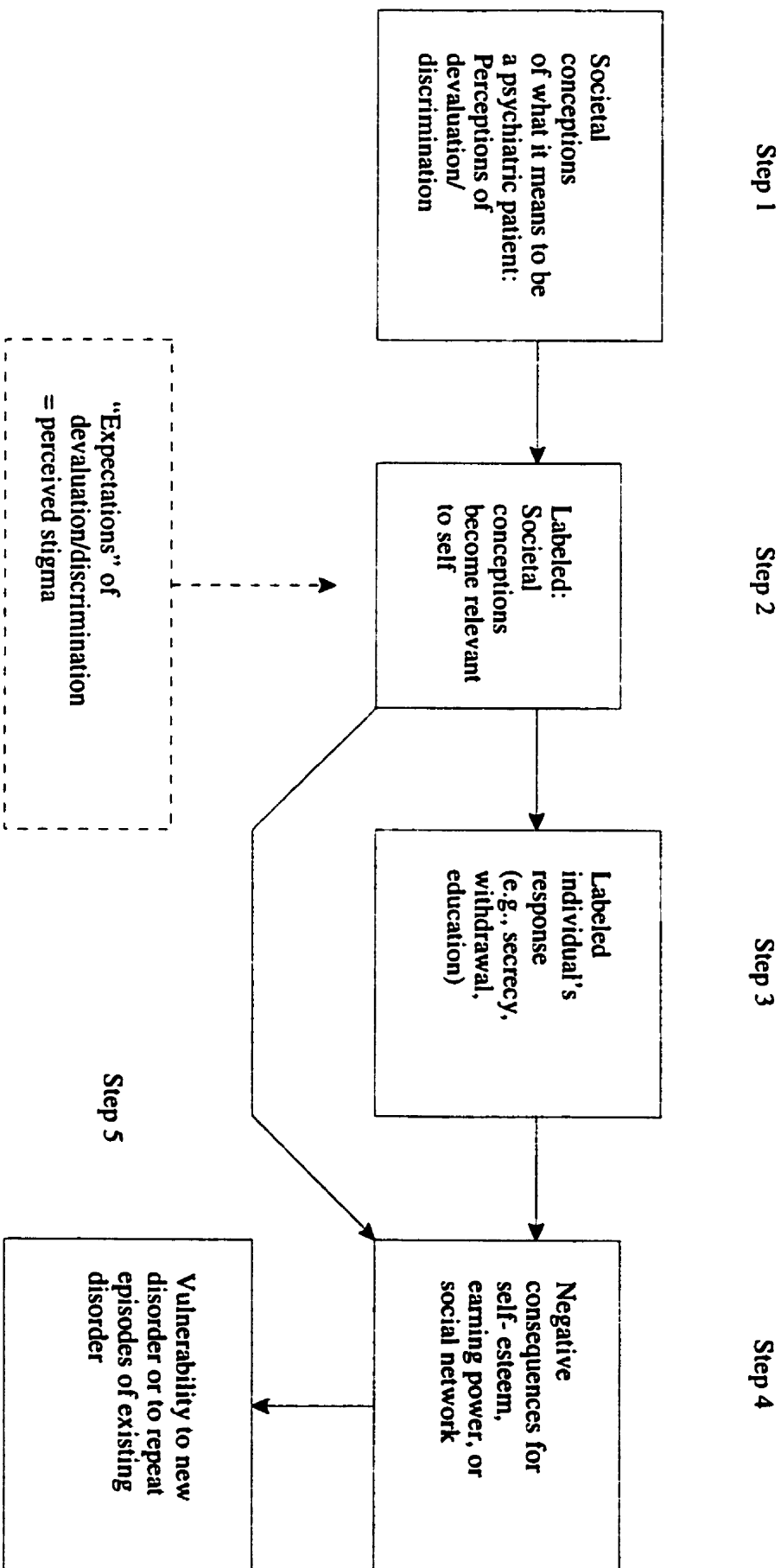


Figure 2. Link et al. (1989) modified mental illness labeling model.

It should be noted that these strategies (i.e., secrecy, withdrawal, and education) were found to be largely unsuccessful, and likely to produce more harm than good (see Link et al., 1991). Negative outcomes of these maneuvers may be constricted social networks and fewer attempts at securing higher-paying jobs (Link et al., 1991). Moreover, lowered self-esteem (as a result of the internalizing process), limited social network ties, and limited vocational opportunities, are thought to be risk factors for the development of psychopathology (Dohrenwend & Dohrenwend, 1981). Consequently, the process of labeling and stigmatization might potentially promote vulnerability to future episodes of mental disorder (see Figure 2).

Thus, the modified labeling approach differs from Scheff's (1966) model primarily in terms of emphasis. Firstly, although Link et al. (1989) agree with Scheff that community attitudes towards mental illness are largely negative, the former acknowledge a measure of variability in societal responses, ranging from strongly negative to fairly tolerant. Secondly, whereas Scheff emphasized the responses of others as responsible for negative long-term outcomes for the labeled individual, Link et al. place greater importance on the individual's own responses, based on his or her acquired beliefs about how society views mental illness. Based on these beliefs, the individual may adopt behavioural strategies (e.g., secrecy, withdrawal) to avoid anticipated negative societal reaction and rejection. Finally, and perhaps most importantly, the modified labeling model does not credit labeling with an etiological role in the creation of mental illness. Rather, Link et al. suggest that the expectation of social rejection (i.e., perceived stigma) associated with a mental illness label may be responsible for precipitating negative

outcomes (e.g., lowered self-esteem, compromised social networks) which might in turn place an individual at risk for relapse of an existing psychiatric illness.

Stigma and self-esteem. The issue of self-esteem as it relates to perceived stigma warrants special consideration. There appears to be consensus among a number of investigators that alteration in self-concept, or compromised self-esteem, is a common, if not inevitable consequence of stigma (e.g., Andrews, 1998; Link, 1987; Link et al., 1989; Goffman, 1963; Penn & Martin, 1998; Rosenfield, 1997). Rosenberg (1965) defined self-esteem as a positive or negative attitude toward the self. High self-esteem is considered to refer to the feeling that one is “good enough”, rather than “superior”, with respect to one’s peers. In contrast, low self-esteem implies self-rejection and self-contempt. It is also of interest to note that self-esteem has been associated with overall well-being. Indeed, according to an extensive review conducted by Deiner (1984), self-esteem, or satisfaction with self, was determined to be the best predictor of subjective well-being, over and above objective life circumstances (e.g., finances, living situation). Inasmuch as self-esteem is related to life satisfaction, it has become a commonly used outcome measure in evaluations of mental health interventions (e.g., Gerber, Prince, De Souza, & Lafave, 1997; Rosenfield, 1997).

Modified labeling theory maintains that the perception of stigma as a result of an official label acquired through treatment contact, as well as strategies to manage stigma, present a significant threat to an individual’s self-esteem. Thus, lowered self-esteem may be viewed as a negative result of acquiring a stigmatized status through labeling.

However, lowered self-esteem is not only viewed as a consequence of the stigmatization

process, but also appears to mediate further adjustment outcomes. For instance, Link et al. (1989) maintain that inasmuch as labeled individuals “believe that they have assumed a status that is viewed negatively, self-esteem and self-efficacy can be affected to such an extent that work performance is impaired” (p.98).

Westbrook et al. (1992) examined the association between stigma and self-esteem among adolescents with epilepsy. Their model tested the relationships among stigmatizing attributes of epilepsy (i.e., seizure type, frequency, and duration of illness), perceived stigma, disclosure strategies (i.e., concealment, withdrawal, and broadcasting), and self-esteem. In addition to determining that type and frequency of seizures were related to self-esteem, their findings indicated that the belief that epilepsy is a stigmatizing condition predicted low self-esteem. Further, the authors concluded that self-esteem may influence disclosure strategies adopted by stigmatized individuals (e.g., withdrawal).

Although compromised self-esteem is commonly associated with acquiring a stigmatized status, Crocker (1999) has recently argued that self-esteem is constructed in the situation and depends on both the collective representations, or shared meanings, that people bring with them to situations, and features of the situation that make those collective representations relevant or irrelevant when evaluating the self. Thus, the self-esteem of the stigmatized may be higher, lower, or the same as self-esteem in the non-stigmatized, and may change from situation to situation. As well, Crocker and Major (1989) identified three possible strategies that members of a stigmatized group may use to protect their self-esteem; a) individuals compare themselves to members of their own

group rather than to a non-stigmatized group, b) individuals tend to devalue things they are not good at, and c) individuals may attribute negative feedback to the fact that they belong to a stigmatized group rather than to faults they personally possess.

Crocker and Major (1994) demonstrated that among stigmatized groups, those who attributed negative feedback to their stigmatized status had higher self-esteem than those who did not. They used the Rosenberg Self-esteem Scale (Rosenberg, 1965) to evaluate women's self-esteem following feedback from a male evaluator on an essay assignment. Prior to writing the essay, the subjects exchanged general opinion surveys with the male evaluator. For one group of subjects, the evaluator's opinions were designed to convey negative attitudes towards women. For another group, the evaluator's attitudes towards women were neutral. In cases where negative attitudes had been expressed by the male evaluator in the initial opinion survey, subjects were more likely to attribute a negative essay evaluation to sexism.

The study was replicated with black students asked to write an essay to which they received favourable or unfavourable responses from white student evaluators. Some students were led to believe that the evaluators could see them through a one-way mirror and others were not, depending on whether the blinds were up or down. Black students were more likely to attribute feedback (positive and negative) to their own abilities when they believed they could not be seen, and more likely to attribute negative feedback from the white evaluators to prejudice, when they believed they could be seen (Crocker & Major, 1994).

Similarly, Specht, King, and Francis (1998) recently examined strategies for

maintaining self-esteem among adolescents with physical disabilities. These investigators found that attributing negative feedback to belonging to a stigmatized group was more effective in maintaining self-esteem in their study sample, than the strategy of devaluing things they were not good at.

Thus, self-esteem is not necessarily harmed by having a stigmatized status, particularly when targeted individuals attribute negative events they experience to prejudice, rather than to their own shortcomings, and even less so, when the individual's self-esteem is independent of the need for approval from others (Crocker & Quinn, 1998).

Other factors that appear to mediate the relationship between stigma and self-esteem include the availability of similar others. In a time-sampling analysis of the activities and social contexts of 86 undergraduates, Frable et al. (1998) compared subjects with visible stigmas (e.g., physical disability) to those with concealable stigmas. The concealable stigma group included students who reported being gay, bulimic, or that they came from low income families. These students reported lower self-esteem and lower mood at each time-sampling than students with visible stigmas, with the exception of those times when they also reported being in the presence of similar others. The investigators concluded that the presence of similar others serves to protect the psychological self from the negative effects of belonging to a stigmatized group.

Whereas the erosion of an individual's self-esteem is likely a result of several factors, the belief, or perception, that one possesses a stigmatizing attribute appears to be an important aspect of the relationship between stigma, self-esteem, and adverse outcomes. Still, the relative importance of self-esteem in predicting negative outcomes



within a modified labeling framework remains to be determined. Taken together, however, the role of self-esteem in either promoting or maintaining compromised psychological and social functioning in individuals with a serious mental illness label should be considered when examining the relationship between perceived stigma and its negative sequelae.

Evidence for the modified labeling theory. In samples of community residents and psychiatric patients from the Washington Heights section of New York City, Link and colleagues (Link, 1987; Link et al., 1989) provided evidence for the modified labeling theory. Subjects were carefully screened using symptom scales on the Psychiatric Epidemiology Research Interview (PERI) and a modified form of the Diagnostic Interview Schedule (Robins, Helzer, Crougham & Ratcliff, 1981), which yields psychiatric diagnoses according to DSM-III criteria. Subjects were then included in one of five groups: 1) community respondents without pathology, 2) untreated community residents with pathology, 3) formerly treated community residents not currently receiving treatment, 4) a recently labeled first-treatment contact group, and 5) a repeat-treatment contact group, which consisted of individuals who had a previous treatment contact more than one-year earlier and were also in current treatment.

Perceived stigma was measured using the Devaluation-Discrimination Scale, a 12-item scale designed to assess the extent to which respondents believe that “most people” will devalue or discriminate against a person with a history of psychiatric treatment (Link, 1987).

Results indicated that patients, whether current or former patients, as well as

untreated community residents, endorsed the belief that mental patients will be devalued and discriminated against. Further, patients strongly endorsed items measuring secrecy, withdrawal, and education, as methods of coping with feelings of stigmatization. Also, first-contact and repeat-contact patients endorsed these items to the same extent, suggesting a common belief in the need to protect against the threat of stigmatization.

In addition, Link (1987) demonstrated that the expectation of being devalued and discriminated against by others was related to symptoms of demoralization in both of these groups. Symptoms of demoralization (e.g., poor self-esteem, helplessness-hopelessness, dread, confused thinking; see Dohrenwend, ShROUT, Egri, & Mendelsohn, 1980) were determined using a 25-item scale derived from the PERI. Interestingly, while diagnosis (i.e., depression versus schizophrenia) was related to the level of demoralization, beliefs about devaluation and discrimination were associated with higher levels of demoralization in both first and repeat-contact patients. At any rate, the relationship between perceived stigma and poor self-esteem, as hypothesized by the modified labeling theory, was supported even though self-esteem was embedded in the measure of demoralization.

In an analysis of income and employment status, the modified labeling theory predicted that self-devaluation and the fear of discrimination would result in lower earned income and work status. Indeed, when compared to other groups, the repeat-treatment contact patients (i.e., patients who have spent sufficient time in the community with a mental illness label), earned less income and were unemployed for more weeks during the preceding year. The patients' beliefs about devaluation-discrimination were associated

with their lower income and employment status (Link, 1987). In fact, when appropriate factors were held constant, statistical analysis revealed that each point on the Devaluation-Discrimination scale (ranging from 1, strongly disagree, to 6, strongly agree) was “associated with a \$1,536 decrement in income and 7.12 more weeks of unemployment” (p. 107). Thus, it is likely that efforts to cope with beliefs about devaluation and discrimination (e.g., withdrawal) may have negative consequences for a labeled individual’s life circumstances and chances for the future.

Link et al. (1989) provided further evidence for the modified labeling theory in their analysis of the relationship between perceived stigma and social support networks. This component of their study employed two measures of network-based social supports to determine the extent to which the person’s social network contained individuals (i.e., non-relatives, non-household relatives, and household relatives) who fulfilled supportive tasks in times of need (e.g., taking care of the house/apartment when away), and provided instrumental support (e.g., lending money or providing help with decision-making). Analysis of social support networks indicated that repeat-treatment contact patients had fewer instrumental supporters and less extensive supportive task coverage than either community respondents without pathology or untreated community residents with pathology.

Using multiple regression analysis, Link et al. (1989) found a highly significant association between measures of perceived stigma and network-based social supports. Moreover, social supports appeared to be affected by the extent to which patients feared rejection and by the coping strategies they adopted to deal with their stigmatized status.

For instance, the more stigma concerns patients had, the more they relied on household relatives for support. Not surprisingly, supports from outside the household (i.e., non-relatives) to provide instrumental support was inversely related to withdrawal. It appears, then, that the process of labeling and stigmatization can have negative effects on securing or maintaining non-familial supports.

In another study examining the modified labeling perspective, Rosenfield (1997) examined the impact of perceived stigma on the life satisfaction of people with serious mental illness. Whereas, proponents of the labeling perspective would argue that labeling through treatment contact has negative consequences for people with mental illness, critics would assert that labeling results in receiving needed services. Rosenfield tested both positions by examining the impact of perceived stigma and receiving mental health services on clients' overall life satisfaction. Higher life satisfaction was related to lower perceived stigma and to the receipt of high quality services, in this case, a model program based on the Fountain House psychosocial clubhouse approach (Beard, 1978).

It is worth noting that whereas treatment might be expected to reduce symptoms and thereby reduce the negative consequences associated with perceived stigma, Link et al. (1997) demonstrated that such consequences continued to affect persons dually-diagnosed with substance abuse and mental illness, even though symptoms and functioning improved after one year in treatment. Thus, perceived stigma has important effects that appear to be independent of treatment success.

Based on literature documenting the relationship between self-esteem, perceptions of mastery, and psychological well-being, Rosenfield (1997) also explored the role of

self-concept in overall life satisfaction. As discussed earlier, evidence exists demonstrating the link between stigma and self-esteem (Link, 1987; Farina et al., 1971; Penn & Martin, 1998; Westbrook et al., 1992). Moreover, the likelihood that the stigma of mental illness is incorporated into a person's self-concept increases with the duration of the illness, which in turn is thought to alter self-perceptions and life goals (see also Lally, 1989). Thus, Rosenfield (1997) predicted that self-concept would be related to both life satisfaction and received services.

Using Rosenberg's (1984) Self-esteem Scale and a scale measuring mastery (Pearlin, Lieberman, Menaghan, & Mullan, 1981), Rosenfield found that when controlling for the effects of self-esteem, the coefficient for stigma in her regression analysis was reduced by 53 percent. Adjusting for self-esteem and mastery together resulted in a reduction of nearly 60 percent in the coefficient for stigma. Thus, Rosenfield suggested that perceived stigma reduced patients' overall life satisfaction by compromising their self-esteem and self-efficacy (e.g., feelings of helplessness, inability to change, or to solve problems). Moreover, the lowered sense of self brought about by expectations of devaluation and discrimination severely reduced patients chances for overall life satisfaction in most specific life areas (i.e., living arrangements, family relations, financial situations, safety, and health). It would appear, then, that self-concept, and self-esteem in particular, may mediate the association between the effects of stigma and life satisfaction.

Rosenfield (1997) concluded that interventions intended to reduce stigma through empowerment (i.e., mastery and control over their environment), coupled with high

quality treatment, were most likely to improve the quality of life of people with serious mental illness. However, she also cautioned that the best treatments available have little power in decreasing stigma that exists in the community. In this sense, the stigmatizing attitudes of communities define the “limits of treatment” (p.670).

Notwithstanding the strong predictive relationship between self-esteem and subjective well-being (Deiner, 1984), it may be seen that poor self-esteem (e.g., feelings of worthlessness) engendered by expectations of stigmatizing social responses are likely to promote a tendency to give up in the face of difficult situations. Consequently, opportunities for growth and improvement may also be missed, and challenges unlikely to be embraced. The likelihood of social withdrawal increases and feelings that one does not belong may be exacerbated. Indeed, low self-esteem was also correlated with poor social functioning (Rosenfield (1997). Thus, when investigating the association between perceived stigma and general feelings of well-being and social functioning, the possible involvement of aspects of self-concept, especially self-esteem, should be considered.

Taken together, it appears that perceived stigma is associated with limited access to social resources, lower employment status, lower subjective well-being, and poor self-esteem. However, although Link et al.’s (1989) study provided evidence of a compromised social network (e.g., supportive contacts) as a result of perceived stigma, these results do not address the impact of perceived stigma on other aspects of clients’ integration into the community, such as their day-to-day presence, their relations with neighbours, or their sense of belonging. Moreover, the role of self-esteem in the relationship between perceived stigma and different aspects of community integration

warrants further attention. Indeed, the notion of community integration implies a comprehensive system of physical, social, and psychological functioning. Whether or not perceived stigma is associated with decreased community participation, limited social interactions with neighbours, or a compromised sense of belonging, remains to be determined. Certainly, modified labeling theory would predict these aspects of community integration to be negatively affected by perceived stigma. Thus, the following section provides a brief overview of studies examining the correlates of community integration among people with serious mental illness.

## Community Integration of People with Serious Mental Illness

It will be recalled that a major goal articulated by the deinstitutionalization movement was to encourage people with chronic mental illness to reintegrate into the larger society. Hence, one of the primary objectives of community-based services has been to facilitate community integration by helping people with serious mental illness to develop natural support networks and assume normal roles alongside non-disabled community members (see Aubry & Myner, 1996; Aubry et al., 1995a; Fellin, 1993). Moreover, community integration has received increasing attention as an appropriate outcome variable in evaluations of community care (e.g., Brown et al., 1997; Nelson, Hall, & Walsh-Bowers, 1997). Not surprisingly, however, the multidimensional nature of community integration has contributed to conceptual ambiguity, and a variety of conceptualizations have hindered efforts to understand and measure factors contributing to integration of persons with serious mental illness (Crisp, 1996; Kruzich, 1985). For instance, community integration has been operationalized in terms of a number of adjustment variables thought to reflect community success. In particular, community tenure and psychiatric symptomatology have commonly been equated with adjustment, and by extension, integration (Crisp, 1996; Kruzich, 1985; Rosenblatt & Mayer, 1974). The search for more meaningful indicators of community integration eventually led investigators to consider client participation in community activities (Segal & Aviram, 1978), employment (Grusky, Tierney, Manderscheid, & Grusky, 1985; Kennedy, 1989;



Scheid, 1993), and social networks (Crisp, 1996). Hence, a brief discussion of the correlates of community integration is provided.

### Correlates of Community Integration

The introduction of specialized housing (e.g., board and care homes, group homes, cooperative housing, etc.) was believed to provide the means of integrating deinstitutionalized clients by providing them with shelter as well as the support necessary to facilitate their foray into the social mainstream (Goering et al., 1992; Nelson & Smith-Fowler, 1987). Unfortunately, studies have demonstrated that while the seriously mentally ill are able to access basic resources (e.g., shopping, eating, etc.), they tend not to use community facilities on a regular basis and often report minimal social interaction with non-disabled community residents (Kruzich, 1985; Mowbray, Greenfield, & Freddolino, 1992; Nelson & Smith-Fowler, 1987; Segal & Aviram, 1978). Thus, though present in the community to a limited degree, seriously mentally ill individuals remain socially isolated from others (Aubry & Myner, 1996). Although some improvements over institutionalized care are noted, especially in helping clients achieve employment goals and community re-entry (Carling, 1990), the extent of community integration among persons with serious mental illness is far less than that of their non-disabled counterparts (Carling, 1990; Crisp, 1996; Nelson & Smith-Fowler, 1987; Segal & Aviram, 1978).

One of the most prominent studies undertaken to understand and measure community integration of the deinstitutionalized seriously mentally ill was conducted by

Segal and Aviram (1978). In their extensive survey of 439 seriously mentally ill residents of 210 sheltered care facilities, Segal and Aviram (1978) considered community integration to be the extent to which clients were involved in their internal (within residence) and external (community) environments. Internal integration comprised clients' participation in activities within the facilities in which they lived, and external integration was operationally defined as the cumulative frequency of the use of community resources, and clients' participation in community activities. Based on data gathered from interviews with residents of sheltered-care facilities, these investigators concluded that, in order of importance, community characteristics (e.g., response of neighbours, location of facility), resident characteristics (e.g., sufficient spending money, involuntary status of resident), and facility characteristics (e.g., supporting autonomy or open discussion of emotional experiences), were related to external integration. Furthermore, positive responses from neighbours, an ideal psychiatric environment, and sufficient spending money were found to influence both internal and external social integration (but see Segal & Aviram, 1978, for more detailed description of their findings).

Community characteristics. Clearly, one of the most critical components of integration is the receptivity of communities to persons with serious mental illness. In a study of the community integration of discharged psychiatric patients living in specialized residential facilities in Manitoba, Canada, Hull and Thompson (1981) found better integration to be related to living in smaller homes located in middle-income communities, with ample community resources and opportunities for integrating

activities.

A study of the neighbouring propensities of community residents towards persons with mental illness conducted by Aubry et al. (1995a) found that illness severity and place of residence (i.e., boarding home) adversely affected neighbours' views. These investigators speculated that identified housing programs, in contrast to more normal housing situations, may serve to label clients, thus negatively influencing the reported intentions of community residents. Further analysis of community residents' attitudes, employing vignettes describing potential neighbours with varying levels of psychiatric disability, led Aubry and his colleagues to conclude that behavioural presentation, rather than housing type, predicted neighbouring intentions (Aubry et al., 1995b). As discussed in an earlier section, however, social desirability cannot be completely ruled out in efforts to ascertain community attitudes since it may influence the reported intentions of respondents to accept, or to discriminate against, devalued groups such as the seriously mentally ill (Link et al., 1989; Skinner et al., 1995).

Residence characteristics. Although Segal & Aviram (1978) reported that facility characteristics had the least effect on activity in the community, it does appear that the type of housing in which clients reside is associated with various degrees of community integration. For example, in a survey of 851 clients of board and care homes in the United States, Nagy et al., (1988) found that residents of smaller non-profit homes ventured into the community more frequently, participated in more activities within the residence, and were more likely to engage in productive activities than clients living in larger for-profit homes. Thus, the size of the facility was thought to have the greatest

impact on clients' activity in the community. Consistent with this finding, Hellman, Green, Morrison, and Abramowitz (1985) reported a deterioration in residents' behaviours when three small residences were centralized into one large facility (see Nelson et al., 1998).

The general consensus of studies examining housing is that when psychiatric patients live in "normal" housing conditions (e.g., apartments, family homes), their involvement with the community is improved (Aubry et al., 1995a; Hull & Thompson, 1981). Indeed, it is likely that normal housing provides clients with more opportunities to interact with other community members. Thus, it has also been proposed that persons with serious mental illness living in normal housing may be more likely to receive "neighbourly" responses from other community residents since opportunities for interpersonal contact would be augmented (Aubry et al., 1995b). Moreover, considerable evidence exists demonstrating that increasing personal contact between individuals from stigmatized groups and members of the community is correlated positively with acceptance in the community (i.e., contact hypothesis, Allport, 1965; Kommana, Mansfield, & Penn, 1997; Link & Cullen, 1986; Penn, Guynan, Daily, Spaulding, Garbin, & Sullivan, 1994; Werth & Lord, 1992).

Client characteristics. Nagy, Fisher, and Tessler (1988) found resident characteristics (i.e., age, gender, and level of impairment) to be related to participation in community activities. Specifically, older, more impaired, female residents, exhibited the least amount of activity in the community. Similarly, Nikkonen (1997) found female group home residents least likely to leave their homes. In addition to female residents'

reported fear of being victimized, it will be recalled that reasons for avoiding the community in this sample included fear of social rejection (i.e., stigma). Finally, it appears that higher functioning individuals tend to secure more desirable accommodation, such as small group homes or apartments (Nelson, Hall, & Walsh-Bowers, 1998; Nelson & Smith-Fowler, 1987; Segal & Aviram, 1978). Thus, the type of housing situations clients find themselves in is likely influenced by their age, gender, level of functioning, and requirement for support, which in turn influences their community involvement.

Social network and social support. An underlying premise of specialized housing has been the assumption that the supports necessary for easing clients into the community would be a key feature of such programs. Indeed, both reciprocal support opportunities afforded through peer relationships, and professional support to guide clients, were touted as benefits of congregate housing for deinstitutionalized patients (Goering et al., 1992). As indicated, Segal and Aviram (1978) reported that social support factors influenced internal and external social integration. Indeed, social support appears to be positively related to community integration (Leavy, 1983).

Considerable literature exists demonstrating an association between social support and physical and mental health (see Cohen & Willis, 1985 for review; Lehman, 1983). However, comparison across studies is complicated by the various ways in which social support has been conceptualized and measured. Terms such as social support, social network, and support network, are used interchangeably, adding to conceptual confusion. Further, investigators have arrived at different conclusions depending on whether social support is considered to operate through a “main effect”, or through a “stress buffering”

process (Cohen & Wills, 1985). Both types have been shown to influence well-being, but in different ways. On the one hand, the main effect, or direct effect, model suggests that social supports are beneficial whether or not the individual is exposed to stressful events. Evidence for this model is found when the support measure assesses a person's degree of integration in a large social network (Cohen & Wills, 1985). On the other hand, the buffering model emphasizes that social supports serve to protect the individual from the potentially negative effects of stressful events. Evidence for the buffering hypothesis stems from research demonstrating the moderating effect of having a confidant in preventing depressive episodes in adult women who experienced significant loss in childhood (Brown, 1975).

It is useful to distinguish between social support and social network since social support suggests uniformly positive relationships, whether or not these relationships are reciprocal. Social networks, however, consist of all the relationships in which the individual is involved. The social networks of people with serious mental illness typically contain fewer family members, and fewer reciprocal relationships in which clients are providers as well as recipients of support (e.g., see Beigel et al., 1995; Leavy, 1983). It is also assumed that since persons with serious mental illness have smaller networks, they receive less support, and consequently may be at greater risk for illness relapse (Nelson & Smith-Fowler, 1987; Tracy & Beigel, 1994). In addition to being impoverished both quantitatively and qualitatively, the networks of people with serious mental illness have also been associated with greater symptomatology (Goering et al., 1992). Moreover, in the studies conducted by Dewees et al. (1996) and Pulice et al.

(1995), the social supports clients did have were frequently artificial, in the sense that they emanated from the mental health system (see also Goering et al., 1995; Goffman, 1963).

Perceived support. Whereas support may be viewed in terms of its structural characteristics (e.g., support network, support availability, reciprocity), and in terms of its various functions, or support type (i.e., emotional support, instrumental assistance, information, and personal feedback, see House, 1981), it is of interest to note that perceived support, as opposed to objectively measured support availability, has been shown to predict community integration among persons with serious mental illness. Indeed, resident perceptions of their available supports were better predictors of both internal and external integration than home operator perceptions (Segal, Everett-Dille, & Moyles, 1979). The individual's perception of interpersonal support availability that is "responsive to the needs elicited by stressful events" is consistent with the "buffering" model (Cohen & Wills, 1985).

#### Perceived Stigma as a Barrier to Community Integration

Despite attempts to encourage integration through the use of community resources, employment, education, housing, leisure activities, and social supports, persons with serious mental illness appear to limit their social interactions to other consumers (Aubry & Myner, 1996; Link et al., 1989) and to mental health professionals (see Goering et al., 1992), and appear restricted in their community activities (Deweese et al., 1996; Kruzich, 1985). Indeed, it appears that clients continue to identify with the psychiatric

patient role, in spite of significant time spent as community residents (Robey, 1994).

Deweese et al. (1996) explored the degree of community integration achieved by people with serious mental illness discharged from a Vermont state hospital as part of a policy to reduce the need for “central hospitalization” through the expansion of community care. They described the intent of the new policy as attempting to foster “genuine community integration of persons with mental illness” (p. 1088). In this study, community integration encompassed nine variables, including hospitalization, clinical and behavioral status, housing, leisure, social supports, use of community resources, educational and vocational status, and employment. It should be noted that a number of these variables (e.g., hospitalization, clinical status, behavioral status), may be more aptly considered “adjustment” as opposed to integration variables. Nonetheless, consumers, families, and providers interviewed for the study repeatedly cited stigma as a major impediment to community integration (Pulice et al., 1995). Indeed, more than 39 percent of the case managers surveyed identified stigma as the primary obstacle to clients making their way in the community.

Perceived stigma as a barrier to physical and social integration. Although anecdotal, a study of deinstitutionalized psychiatric patients in Finland found that the lives of patients were negatively affected by the fear of being labeled “mental cases or former mental hospital inmates” (p. 377; Nikkonen, 1996). As a consequence of their expectation of rejection and discrimination, these community care residents exhibited compromised physical community integration, tending to resist being outside their homes unless it was unavoidable, offering excuses such as fatigue, nausea, or excessive traveling



distances. Thus, information regarding the extent to which clients feel they are stigmatized may be useful for those program planners interested in developing interventions that would increase participation in community activities.

Critics of specialized housing maintain that such programs have not only failed in their mandate of integrating psychiatric patients into the community, but may actually promote stigmatization and social isolation (Carling, 1990; Ridgway & Zipple, 1990). Programs that fail to focus on helping residents integrate meaningfully into their communities may inadvertently contribute to social isolation (Ridgway & Zipple, 1990). Moreover, the fact that clients are sheltered in specialized housing may serve to identify them as having a psychiatric disability (Aubry et al., 1995a). As a result, the stigma associated with the psychiatric illness label may exclude individuals with serious mental illness from regular social exchanges with other community members through indifference, or outright rejection, on the part of non-disabled community residents. Identified housing programs may also serve to preclude the choice of many individuals who might otherwise opt for discretion surrounding their psychiatric illness (i.e., secrecy), thus contributing to their social isolation. Alternatively, housing or community support programs that adopt a "low profile" in order to avoid possible opposition to their presence, may discourage client contact with community members, at the same time reinforcing client expectations of rejection (i.e., perceived stigma), thus further compounding social withdrawal.

Perceived stigma as a barrier to psychological integration. One of the hallmarks of communities, and hence the associated feeling of belonging that members derive,

involves the creation of boundaries that define membership and exclusionary criteria. Whereas such boundaries benefit members in terms of providing a sense of security and intimacy within the community, often the strength of boundaries relies on the identification of deviants that may be used as scapegoats (McMillan & Chavis, 1985). Thus, the stigmatization and rejection of so-called deviants, who do not belong, may be a common feature of evolving community identities, if not the identity upon which the sense of community is based. Apart from their affiliation with other members of their own stigmatized group and its' supporters in the larger mental health community (Aubry & Myner, 1995; Beigel et al., 1995; Goffman, 1963), it goes without saying that, in the face of criteria for membership, persons with serious mental illness may legitimately perceive rejection and experience isolation from other community members. Moreover, this perception may preclude, or at least limit, the sense of belonging experienced by people with serious mental illness, and in turn may restrict their efforts to interact with neighbours (social integration), perhaps even affecting their day-to-day visibility (physical integration) in the community.

### Community Integration - A Working Definition

As can be seen, when considering the relationship between stigma and community integration several factors appear to be involved. Limiting study to only one aspect of community integration (e.g., participation in community activities) falls short when attempting to gain a better understanding of how to encourage people with serious mental illness to fully assume normal roles alongside their non-disabled community peers. A

more comprehensive approach to conceptualizing community integration was recently advocated by Aubry and Myner (1996). In their study comparing life satisfaction and community integration among 51 persons with serious mental illness living in housing programs and a matched sample of community residents, Aubry and Myner (1996) proposed a three-dimensional definition of community integration. Their definition acknowledged the physical aspects of integration (i.e., Segal & Aviram, 1978), the extent of clients' social interactions with non-disabled members of the community, as well as their sense of belonging in their communities. Thus, in addition to visibility in the community, the notion of community integration advanced by Aubry and Myner also incorporates social and psychological components.

Physical integration. Segal and Aviram (1978) initially defined five levels of community involvement, including the extent of a person's a) presence (amount of time spent in the community), b) access (to places, services, and social contacts), c) participation (involvement in activity with others), d) productivity (employment, volunteer, workshop), and e) consumption (ability to manage finances and purchase goods and services). Their external-integration scale represents only four of these dimensions, excluding productivity, since this aspect was under-represented among the sheltered-care residents surveyed. Thus, going to a shopping area and purchasing items or using a community centre on a regular basis would be considered evidence of external integration.

In spite of its widespread application, this conceptualization of community integration has been criticized on the basis that it provides only limited information,

primarily related either to clients' visibility in the community, or to their use of community resources and participation in community activities (i.e., physical integration, Aubry & Myner, 1996). A serious limitation of Segal and Aviram's (1978) measure of community integration is that it fails to address the client's perspective and the interactions between clients and non-disabled community residents. Finally, the scale does not acknowledge the importance of relationships with disabled as well as non-disabled peers in the successful integration of persons with serious mental illness. Nevertheless, as a measure of physical integration, its contribution to an overall understanding of community integration is critical.

Social integration. Aubry and Myner (1996) defined social integration in terms of actual contact between persons with serious mental illness and their neighbours. According to Unger and Wandersman (1985), neighbouring involves "the social interaction, the symbolic interaction, and the attachment of individuals with the people around them and the place in which they live" (p. 141). Thus, this aspect of community integration includes contacts with non-disabled community peers, and in addition, provides an indication of the extent to which these contacts are supportive and reciprocal in nature.

Psychological integration. Psychological integration is conceptualized as the individual's "sense of community", or "belonging" (McMillan & Chavis, 1986). An individual's sense of community may derive from various sources. Communities may be territorial (i.e., neighbourhoods), relational (e.g., professional organizations), or even spiritual (e.g., churches). McMillan and Chavis (1986) proposed that four elements

comprise a sense of community, including; 1) feelings of belonging, 2) influence within the group and as a member of the group, 3) shared values, and 4) shared emotional connection. It is worth noting that these authors suggested that a sense of community has implications for community treatment programs for persons with mental illness, since strategies could potentially be implemented that might allow the “therapeutic benefits of community” to be developed within group homes, and thus contribute to better community integration.

Having a sense of community has been shown to be related to social contact among neighbours, neighbourhood participation, and neighbourhood problem-solving (see Aubry & Myner, 1996). Of particular relevance to the present study, which considers stigma from the perspective of the individual, is the notion that the “sense of belonging” constitutes an important psychological dimension of community integration.

In sum, community integration may reasonably be conceptualized in terms of day-to-day activities, social contacts with neighbours, and feelings of belonging (Aubry & Myner, 1996). Moreover, the foregoing review suggests the possibility that perceptions of stigma may present a barrier in these aspects of community integration among people with serious mental illness. Aubry et al. (1995a) have suggested that in order to better understand interactions between persons with serious mental illness and their neighbours, the perspectives of persons with psychiatric disabilities must be considered in addition to those of receiving communities. By considering the extent to which persons with serious mental illness perceive themselves to be stigmatized, it may become apparent that perceptions of acceptance or rejection may be among those client factors worth

considering in our efforts to better understand and promote community integration among persons with psychiatric disabilities.

## The Present Study

Programs such as assertive community treatment have succeeded in increasing community tenure among clients with serious mental illness by providing intensive and continuous service support (Baronet & Gerber, 1998). In light of these findings, renewed attention may be directed towards the goal of more fully integrating persons with serious mental illness into their communities as originally envisioned by the deinstitutionalization movement.

As discussed, negative outcomes have been associated with perceptions of stigma among people with serious mental illness. Thus, it was considered worthwhile to examine whether or not compromised community integration was also associated with perceived stigma in this client group. Indeed, such a relationship might limit the success of community-based interventions aimed at increasing community integration, as long as client perceptions of stigma are not considered (Pulice et al., 1995; Rosenfield, 1997).

With the exception of Rosenfield's (1997) study, and work conducted by Link and his colleagues (1987; 1989; 1997), most reports documenting the negative impact of perceived stigma in the lives of people with serious mental illness have been either anecdotal or descriptive in nature (e.g., Dewees et al., 1996; Herman & Smith, 1989; Kearns & Taylor, 1989; Nikkonen, 1996; Pulice et al., 1995). Furthermore, apart from the association established by Link et al. (1989) between perceived stigma and compromised social resources, there appear to be no empirical efforts to demonstrate a

relationship between perceived stigma and the extent to which people with a serious mental illness are physically, socially, and psychologically integrated into their communities. Since empirical support for such an association would contribute to our understanding of the psychological barriers to integration faced by people with serious mental illness, the present study examined the relationship between perceived stigma and community integration in a sample of persons with serious mental illness.

Thus, in the present investigation, an inverse relationship between perceived stigma and each of the three aspects of community integration was predicted. Also of interest in this study, was the extent to which perceived stigma contributed to the physical, social, and psychological dimensions of community integration after the influence of demographic and clinical characteristics was controlled. Since community integration has been linked to age, gender, clinical functioning, and social support in the literature, it was expected that these variables would also be related to community integration in the present study. Thus, it was predicted that perceived stigma would make an independent contribution in accounting for the variance associated with each aspect of community integration (i.e., physical, social, and psychological integration). In testing this prediction, the relationships between variables identified in the literature (i.e., demographic and clinical characteristics) and each of the community integration variables were also investigated.

It was also expected that self-esteem would mediate the relationship between stigma and community integration. In Rosenfield's (1997) study examining the role of self-esteem in the relationship between stigma and life satisfaction, controlling for self-



esteem reduced the contribution of perceived stigma to non-significance. Accordingly, if perceived stigma is related to community integration because of its' association with self-esteem, then controlling for self-esteem would be expected to diminish the relationship between perceived stigma and community integration.

Finally, it will be recalled that Link's (1987) modified labeling model places psychiatric patients at risk for the recurrence of existing disorder. With the advent of more intensive community involvement of treating professionals with seriously mentally ill clients, hospitalization rates have decreased and community tenure has increased. Despite considerable evidence documenting the negative sequelae of stigma, with the exception of Rosenfield's (1997) study, there have been no empirical evaluations of the negative consequences of perceived stigma among persons with serious mental illness served by community-based programs. Hence, the present study was conducted in a sample of persons being served by ACT programs, with the intent of documenting the presence of perceived stigma in this population.

### Hypotheses to be Tested

Hypothesis 1. Perceived stigma is negatively related to physical, social, and psychological integration.

Hypothesis 2. Perceived stigma will make an independent contribution in accounting for the variance associated with physical, social, and psychological measures of community integration, after the influence of demographic (i.e., age and gender), clinical (i.e., psychiatric symptom severity, and psychosocial

functioning), and social support (i.e., perceived social support) characteristics has been controlled.

**Hypothesis 3.** Self-esteem will mediate the association between perceived stigma and community integration (i.e., physical, social, and psychological integration).

## Methods

### Study Participants

The present study formed part of a multi-site project investigating variations in assertive community treatment (ACT) programs (Krupa, Eastabrook, & Gerber, 1997). The multi-site project was sponsored by the Community Mental Health Evaluation Initiative (CMHEI) of the consortium formed by the Ontario Mental Health Foundation, the Canadian Mental Health Association, Ontario Division, and the Health Systems Research Unit in the Clarke Division of the Centre for Addictions and Mental Health.

Clients were recruited from four ACT programs located in Eastern Ontario, including Kingston and Brockville. Brockville is a small city of approximately 20,000 people set in a rural landscape. Kingston is somewhat larger, with approximately 100,000 inhabitants. All clients were living within city limits at the time of study. Clients were between the ages of 18 and 65 years. All clients met criteria for major mental disorder, including chronic course and disability (i.e., "heavy users" of psychiatric care, Surles & McGurrin, 1987). Client psychiatric diagnoses included schizophrenia, affective disorders, personality disorders, substance abuse disorders, as well as other psychotic and non-psychotic disorders. Clients resided in community settings, except for brief periods of hospitalization.

Although it was hoped that fifty percent of all ACT clients in the four programs would be successfully recruited through a random sampling procedure, only 99 (26%) of

the total population of 385 registered clients agreed to participate.

### Program Description

Over the past 25 years, assertive community treatment of persons with serious mental illness has been shown to be successful in many parts of the world, and in some jurisdictions, it has largely replaced institutional care. The program aims to help people with severe and persistent mental illness ("heavy users") live successfully in community settings by providing services the client needs whenever needed, in his or her home environment. Since the assertive community treatment model purportedly represents a new standard for treating seriously mentally ill persons, there has been a recent explosion of research on the effectiveness of assertive community care (see Baronet & Gerber, 1998 for review). The majority of the success attributed to assertive community treatment rests on demonstrations of dramatic reductions in inpatient hospital days, even among people with lengthy hospitalization histories (Baronet & Gerber, 1998; Burns & Santos, 1995; McGrew et al., 1995).

ACT teams typically include a psychiatrist and nurses, but may also include social workers, vocational counselors, occupational therapists, recreation counselors, and psychologists. Seven days per week, 24-hours per day, staff are available through an after-hours call system. Individualized treatment plans are developed based on functional assessments. Frequency of client contacts ranges from several times daily to weekly. Contacts may take place in shopping malls, restaurants, clients' homes or places of work. Services are not time-limited, in that clients may obtain services for as long as they are

required.

In addition to addressing clinical symptoms, clients are supported in activities of daily living such as shopping, locating accommodation, personal hygiene, cooking, budgeting, and transportation. Team members help clients use their time constructively in leisure, vocational, and social pursuits. Families and community agencies receive active team support. Team funds are available for clients to prevent unnecessary admissions to hospital. For example, funds are used for emergency housing, groceries, and clothing.

A model program such as ACT offered the opportunity to test the study hypotheses in a sample receiving similar full coverage services, and for whom hospitalization rates were expected to be low. Thus, the issue of community integration, as opposed to community tenure, was relevant for clients in the present study. The four participating ACT programs are profiled below.

Leeds and Grenville Assertive Community Treatment Team (ACTT). Formerly known as the Assertive Community Rehabilitation Program (ACRP), the ACTT is located in Brockville and is affiliated with the Brockville Psychiatric Hospital. The program was established in 1990 to serve "heavy-users" of psychiatric care in Eastern Ontario. The program is based on principles of ACT (Stein & Test, 1980). The ACTT had an active caseload of 110 clients, with a client-staff ratio of less than 10:1 at the time of study. There were 12 team members including registered nurses, nursing assistants, a vocational consultant, a recreational therapist, and a social worker (Lafave, et al., 1995).

Community Integration Program (CIP). The CIP is located in Kingston and is

affiliated with the Kingston Psychiatric Hospital. There were approximately 90 active clients registered with the program with a client to staff ratio of 16:1. The team is multi-disciplinary, and included psychology, nursing, social work, and occupational therapy. A psychiatrist was available 12 hours per week. Vocational consultation was also available to the team as needed.

Psychosocial Rehabilitation Program. The Psychosocial Rehabilitation Program is also affiliated with Kingston Psychiatric Hospital. This team provides assertive community treatment to individuals with lengthy hospitalization histories. The out-patient team served an active caseload of 95 people at the time of study. The team was also serving an in-patient unit of an additional 20 clients oriented towards discharge.

The staff complement was 10, for a client-staff ratio of 10:1. The team is multi-disciplinary with registered nurses, nursing assistants, social work, psychology, and occupational therapy represented. The team had access to vocational consultants through the Kingston Psychiatric Hospital.

Assertive Community Care Team (ACCT). This team was initiated in 1997 with community reinvestment funds. It is governed by a community-based agency, Kingston Friendship Homes, and shares office space with this parent agency. The team had 87 registered clients and six staff at the time of study, with a client-staff ratio of 14:1.

The staff had a variety of backgrounds and experience in mental health although not necessarily in a specific professional discipline. Nursing was represented on the team. At the time, the team did not have the services of a psychiatrist, although it hoped to arrange for 6 hours per week of a psychiatrist's time. The team typically relied on a

general hospital psychiatric unit when clients required hospitalization.

## Variables and Measures

### Program Conformity

The Index of Fidelity for Assertive Community Treatment (IFACT, McGrew Bond, Dietzen, & Salyers, 1994, Appendix A). The IFACT was used to determine if all four assertive community treatment programs from which clients were sampled share similar characteristics (e.g., team composition, service delivery). As seen in Appendix A, the IFACT permits a rating of the degree of conformity of assertive community treatment programs to the original model developed by Stein and Test (1980). A trained interviewer completed the index with members from each of the four ACT teams. The index is composed of three sub-scales including Staffing, Organization, and Service. The index shows moderate internal consistency, with Cronbach's alpha coefficients ranging from .50 to .72 for sub-scales. The IFACT indicates good overall internal consistency with an alpha level of .81 for the total scale (McGrew et al. 1994).

### Socio-Demographic Information

Information, obtained from client charts, and from team members, was collected as part the large CMHEI multi-site study mentioned above. Socio-demographic data were obtained from forms used for multi-site data collection. These forms included a CMHEI Baseline client self-report form, and CMHEI Baseline, Employment, Financial, Residential, Service/Resource Use Logs (Emergency Room Visits and use of Community

Services and Support Programs). Overall demographic data extracted from the multi-site project to describe the ACT clients from the four programs included age, gender, marital status, education, diagnosis, hospitalization prior to assertive community treatment, and time in assertive community treatment. Additional details available for the final study sample also included clients' income, type of residence, personal support network size and composition, and recent hospitalization. Questionnaire items, extracted from the multi-site protocol, appear in Appendix B.

### Study Measures

Perceived stigma. Client perceptions of stigma were measured using the Devaluation-Discrimination Scale (Link, 1987, Appendix C). The Devaluation-Discrimination Scale focuses on perceptions of stigma rather than stigmatizing experiences. According to modified labeling theory, only labeled individuals apply perceived stigma to themselves (Rosenfield, 1997). Evidence for this lies in the deleterious effects in a range of life areas found among labeled but not among unlabeled persons (Link, 1987). Furthermore, according to Rosenfield (1997), asking about stigma in this indirect way "avoids the pain of recounting personal experiences that could deter candid reporting" (p. 664). The Devaluation-Discrimination Scale provides a measure of perceived stigma by assessing the extent to which an individual believes most people will devalue or discriminate against a former psychiatric patient. The scale consists of 12 items that ask respondents to rate their agreement from "strongly agree" to "strongly disagree", with statements concerning whether "most people" would accept a former



psychiatric patient as a friend, teacher, or care-taker of small children. The scale also asks whether former psychiatric patients are seen as less intelligent, or trustworthy, than other people. Correlations with a measure of acquiescence were non-significant. All items (half in the reverse direction) are scored so that a high score indicates a belief that former psychiatric patients will be devalued and discriminated against. The measure shows adequate internal consistency overall ( $\alpha = .78$ ), and good internal consistency for former psychiatric patients ( $\alpha = .82$ ). Validity of the measure rests largely on the face validity of items composing it. Construct validity is supported because the scale behaves in accordance with the theory that led to the creation of the scale. Thus, studies demonstrating relationships between perceived stigma and demoralization, earned income, employment status, and social network ties, among psychiatric labeled (but not unlabeled) groups were predicted by the Link et al. (1989) model.

Physical integration (Appendix D, Aubry & Myner, 1996; Segal & Aviram, 1978).

The Physical Integration Scale was used to assess the individual's frequency of activities outside the household. This condensed version of Segal and Aviram's external integration scale, devised by Aubry & Myner (1996), is composed of 12 items assessing the individual's frequency of involvement in different activities outside their household in the past month, such as eating at a restaurant, visiting a library, and walking in a park. Responses on a Likert-type scale range from never (0) to very often (4), with higher scores representing higher levels of physical integration. Cronbach's alpha for the Physical Integration measure was reported at .73 for persons with psychiatric disabilities (Aubry & Myner, 1996). The construct is relatively concrete in that items measure the

frequency of behavioural activity (e.g., “How often did you attend a movie or concert?”). The original external integration scale (Segal & Aviram, 1978) items had an internal consistency of .91 with an average item to scale correlation of .71, and included seven factor-analytically-derived external integration sub-scales.

**Social integration.** The Social Integration Scale (Appendix E. Aubry & Myner, 1996; Aubry, et al., 1995a) includes 13 items that ask respondents to rate the frequency of different kinds of social contact with neighbours, ranging from superficial (e.g., saying hello) to closer forms of contact (e.g., going out on a special outing). Response alternatives vary from never (1) to frequently (5), with higher scores reflecting greater social integration. Cronbach’s alpha for the measure was found to be .87 for persons with psychiatric disabilities (Aubry & Myner, 1996). Social Integration was operationalized in terms of reported observable frequency of different types of interaction with neighbours, based on the definition of neighbouring proposed by Unger & Wandersman (1985). Items of the measure involve activities that exchange emotional, instrumental, or informational support with neighbours. The construct is relatively concrete in that items are easily measured in terms of frequency of behaviour.

**Psychological integration.** The Psychological Integration Scale (Appendix F) is a 12-item sense of community measure developed as part of a large scale community survey conducted by Perkins, Florin, Rich, Wandersman, and Chavis (1990). The measure was confirmed through factor analytic study in a sample of 720 New York City residents ( $\alpha = .80$ ). Items on the scale (four scored in the reversed direction) ask respondents to rate as true (1) or false (0) 12 statements regarding the respondent’s beliefs

and attitudes about his or her sense of belonging, availability of help, feelings of influence, and emotional investment, in relation to neighbours and the neighbourhood, with higher scores indicating greater psychological integration in the neighbourhood. Cronbach's alpha for the measure was found to be .71 for persons with psychiatric disabilities (Aubry & Myner, 1996).

Demographic variables. Background characteristics analyzed in accordance with the study hypotheses included clients' age and gender, since these variables have been associated with community integration in the literature, as reviewed earlier (e.g., Nikkonen, 1997).

Brief Psychiatric Rating Scale (BPRS, Overall & Gorham, 1962, Appendix G). The BPRS permits a proxy assessment of psychiatric symptoms. The scale includes 24 items rated on a seven point Likert scale from "not present" to "extremely severe". Symptoms assessed by the scale include anxiety, depression, hostility, in addition to positive (e.g., hallucinatory behaviour, suspiciousness, unusual thought content), and negative (e.g., blunted affect, emotional withdrawal) symptoms associated with a diagnosis of schizophrenia. Inter-rater reliability of the scale ranges from .67 to .86 for scale items. The BPRS demonstrates clear discriminatory power for diagnostic groups (i.e., schizophrenia, depressive illness) and for patient status (i.e., in-patient or out-patient) on the schizophrenia, thought disturbance scale, and global scales. The BPRS was completed by trained research assistant interviewers and required approximately 20 minutes.

Psychosocial functioning - Multnomah Community Ability Scale (MCAS, Barker, Barron, McFarland, Bigelow, & Carnahan, 1994, Appendix H). It will be recalled that Link et al. (1989) distinguished between their labeled and unlabeled mentally ill groups using measures of symptomatology and diagnosis, without regard to psychosocial functioning. Since functioning, according to Cohen and Wills (1985), may reflect better social skills development, and since it is also assumed that enhancing social skills contributes to better community acceptance, and thus integration (e.g., see Aubry et al, 1995a; 1995b), it was of interest to control for this variable in the statistical analysis.

The MCAS consists of 17 items designed to assess psychosocial functioning in people with chronic mental illness in four areas, including interference with functioning, adjustment to living, social competence, and behavioural competence. These areas provide four subscale scores as well as an overall score. Items are rated on a five point Likert scale and general population norms (i.e., age, gender) are provided. The MCAS has been shown to have good inter-rater (.85) and test-retest reliability (.83), as well as good discriminant and criterion validity. Internal consistency is also fairly high (alpha = .90). Reliability and validity data for this scale were evaluated on over 300 patients with severe and persistent mental illness in both urban and rural settings (Barker, Barron, McFarland, & Bigelow, 1994b; Barker et al., 1994a). The MCAS was completed using information from client charts and with the assistance of program staff.

Perceived Social Support Scale (Arnold, 1995; 1996, Appendix I). This self-report instrument consists of 6 items that form a unifactorial measure of perceived social support with good reliability (.81), established with 531 adults (Arnold, 1998, personal

communication). The scale is brief and easy to comprehend. The perceived support construct was confirmed through factor analysis. The scale has been used with both children and adult samples on two separate occasions as part of a longitudinal primary prevention policy research demonstration project assessing the role of social support, among several variables, in the adjustment of children from economically disadvantaged communities (Peters, 1994).

Rosenberg Self-Esteem Scale (SES, Rosenberg, 1965, Appendix J). The SES was administered to measure client self-esteem in the present study. The SES consists of ten items that survey feelings of worthlessness, uselessness, and failure ( $\alpha = .82$ ; Rosenfield, 1997). Items in the form of statements concerning approval of and/or liking the self are rated on a four point Likert scale from "strongly agree" to "strongly disagree". Although the scale was originally designed to capture the self-acceptance aspect of self-esteem among adolescents (Rosenberg, 1965), since its development it has been used with a variety of populations (e.g., Frable, Wortman, & Joseph, 1997; Hills & Barker, 1992), including the seriously mentally ill (e.g., Gerber, Prince, de Souza, & Lafave, 1997; Rosenfield, 1997). The scale has high test-retest reliability (.85), and correlates well with similar measures and clinical assessments (.56 to .83).

### Procedure

As part of the larger project, demographic data were collected for clients of the four ACT programs ( $N = 385$ ). Additional study variables were collected for the study sample of clients selected from each of the four ACT teams ( $n = 99$ ).

Selected clients were contacted by a member of their clinical team and asked if they would be interested in participating in the research project. Clinical team members were provided with a recruitment script. A sample recruitment script provided to staff members of one of the participating ACT programs (i.e., CIP) appears in Appendix K. Team members approached clients identified by the sampling procedure to ask permission for the study interviewer to contact them to explain the study in more detail. Clients who were agreeable were then contacted by the interviewer who provided further information about the study and arranged an interview time for the interested participants. Clients who expressed a desire to participate were provided with a consent form describing the nature and purpose of the research, including details concerning the voluntary nature of their participation and the confidentiality of their responses, which were identified through code numbers only. A copy of the consent form as well as Ethics approval for the present study appear in Appendix L.

During the face-to-face interview, participants provided self-report demographic information and completed measures of community integration, perceived stigma, perceived social support, and self-esteem. Psychiatric symptoms were rated by the research assistant in a separate session with the client, and psychosocial functioning ratings were made by ACT staff most familiar with the client participant. Before beginning the interview, the interviewer explained the study to the participant once again. The participant was then asked to sign the consent form which assured participants that they could withdraw their participation at any time, even after the interviews had been completed. The interview began once the consent form had been signed. The total

interview time required for the CMHEI multi-site project, in which the measures of interest in the present study were embedded, ranged from 2 to 2.5 hours. The interviews were spread over more than one session, as required, and were conducted in a location of the client's choosing (e.g., residence).

Client interviewers. The larger study employed a participatory research approach that emphasizes the active participation of the constituents of the research project in all aspects of the research process (Park, 1993; Rogers & Palmer-Erbs, 1994). This approach has the benefit of allowing participants to approach issues of concern in a manner that reflects their own perspective and experience (Krupa et al., 1997). A goal of participatory research is to develop the self-reliance and self-determination of participants both at the level of the individual and the collective. For people with disabilities it provides participants with the information and the skills for self-advocacy (Brydon-Miller, 1993), and it can encourage the development of a social network of mutual support and problem-solving. Thus, clients were represented on the project advisory board and became active participants in honing research objectives and strategies for the larger project. Client researchers were also hired to conduct interviews with client participants.

Due to geographical constraints, five client interviewers were required to collect data from participants from the four ACT programs. All interviewers had post-secondary education, as well as previous experience in mental health work (i.e., self-help support group facilitator, patient council coordinator, research assistant, psychiatric nurse, and mental health coalition member). These clients received four half-day standardized

training sessions covering informed consent, scale administration, and interview procedures. Training was designed to minimize bias in how interview questions were asked. As can be seen from the interview questions and the measures employed, none required extensive instructions to clients (see Appendices).

All self-report measures (e.g., self-esteem, perceived stigma) were administered in an interview format, even though some clients were able to complete self-report measures independently. It was deemed necessary to standardize the interview procedure, with each question being read aloud to the respondent, since level of impairment, illiteracy, or inability to read questions due to medication side-effects, would preclude self-report for many clients.

As indicated previously, symptom ratings on the BPRS were completed by trained research assistants, and measures of functioning were completed by ACT staff.

### Data Analysis

Demographic data. Descriptive statistics were used to summarize demographic data for study participants and for non-participants registered in the ACT programs. In order to examine the representativeness of the final study sample, t-test and chi-square statistics were computed to compare demographic information for study participants and non-participants.

### Research Hypotheses

Data were inspected prior to analysis in order to ensure accuracy of input. Out of



range scores, means, and standard deviations, were identified using univariate descriptive statistics. Data were analyzed using SPSS for Windows 95.

Internal consistency of the measures was determined using coefficient alpha (Cronbach, 1951). The Kuder-Richardson 20 (Kuder & Richardson, 1937), appropriate for dichotomous measures, was used to establish the internal consistency of the Psychological Integration Scale in which items are measured as “true” (1), or “false” (0).

Hypothesis 1. Pearson  $r$  correlations were performed to test the hypothesized inverse relationship between perceived stigma and each of the three community integration variables.

Hypothesis 2. Multiple regression was selected to examine the association between perceived stigma and community integration. Indeed, multiple regression is considered appropriate for examining associations between predictor variables, which may be either dichotomous or continuous, and in which the dependent variable is continuous (Tabachnick & Fidell, 1996). Moreover, multiple regression can be applied to data sets in which the independent variables may correlate with each other and with the dependent variable to varying degrees, as might be expected in observational studies involving variables such as age, psychosocial functioning, and community integration.

More specifically, it was of interest to test whether perceived stigma added anything to the prediction of community integration after other, theoretically-derived, independent variables were accounted for (i.e., control variables). Thus, sequential, also referred to as hierarchical, regression analysis procedures were used.

Three separate sequential multiple regression analyses were conducted, one for

each of the three dimensions of community integration (i.e., physical, social, and psychological integration). Since gender and age are variables that naturally precede clinical characteristics, they were entered into the regression equation first, as background variables. Next, objective variables related to clinical characteristics (i.e., psychiatric symptom severity, psychosocial functioning) were introduced into the analysis, followed by the subjective social support variable (i.e., perceived social support). Finally, perceived stigma was added. In this fashion, the importance of perceived stigma for each of the three dimensions of community integration was determined.

It should be noted that whereas multiple regression analysis may reveal relationships among variables, it does not imply these relationships are causal. Since none of variables were manipulated, even relationships that support a logical causal direction can stem from various sources, including the influence of unmeasured variables (see Kerlinger & Pedhazur, 1973; Tabachnick & Fidell, 1996).

Hypothesis 3. The role of self-esteem as an explanatory mechanism in the relationship between perceived stigma and community integration was explored. This was accomplished by adding self-esteem to the list of control variables in a separate step of the sequential regression analysis, with perceived stigma again entered in the last step.

## Results

The following section presents results of the statistical analyses undertaken to examine the study hypotheses. The results are summarized as follows:

1. Fidelity ratings of the four ACT programs.
2. Summary of demographic information for all ACT clients.
3. Comparison of clients recruited for the study and non-participants.
4. Summary of demographic information for the final study cohort.
5. Descriptive statistics and internal reliability of the study instruments.
6. Results of the study hypotheses:
  - a) Hypothesis 1
  - b) Hypothesis 2
  - c) Hypothesis 3

### Program Conformity

As can be seen in Table 1, IFACT ratings for the four participating ACT programs ranged from 9.7 to 12.5 out of a total possible score of 14.

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Insert Table 1 about here

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These scores represent a moderate to high degree of conformity with respect to core

Table 1.

Total and Sub-scale Scores on the Index of Fidelity to Assertive Community Treatment (IFACT) for the Four Participating ACT Programs.

Variable	ACRP	CIP	PSR	ACCT
10:1 client: staff ratio	1	1	1	.6
Team size (7 - 10)	.5	.4	1	1
Psychiatrist available	1	.5	1	0
Nurse on team	1	1	1	1
Staffing score	3.5	2.9	4.0	2.6
Team as primary therapist	1	1.0	1	1
Separate site	0	1	0	0
Shared caseload	1	1	1	1
Daily team meeting	1	1	1	1
Coordinator provides direct service	0	0	1	0
24-hour on call	1	.5	.5	.5
Time un-limited service	1	1	1	1
Organizational score	5	5.5	5.5	4.5
In vivo focus	1	1	1	.6
Office contacts avoided	1	.6	1	1
Intensive contacts	1	1	1	1
Service score	3	2.6	3	2.6
Total IFACT score	11.5/14	11/14	12.5/14	9.7/14

assertive community treatment principles originally outlined by Stein and Test (1980). The lowest score (9.7/14) was obtained by the most recently implemented team, the Assertive Community Care Team (ACCT), formed in 1997. The fidelity score for this program reflects the lack of an available psychiatrist at the time of interview, a slightly higher client: staff ratio, and less emphasis placed on problem-solving with clients in the real world (i.e., in vivo).

Table 1 also reports Staffing, Organizational, and Service sub-scale scores for each of the four teams. It should be noted that features of assertive community treatment considered to comprise critical ingredients of ACT (Lachance & Santos, 1995), including small client: staff ratios, the team as primary service provider, shared caseloads, 24-hour availability, time un-limited service, and intensive treatment contact, were endorsed by all four teams.

Aspects of service delivery, such as whether or not the service coordinator provides direct service to clients, and the availability of a location separate from the parent agency (e.g., hospital) for service delivery, are organizational in nature and thus subject to variation across jurisdictions. Indeed, these specific items on the fidelity measure received less endorsement from the four teams in the study. However, it should be noted that adaptations of ACT organizational components do not appear to dilute program effectiveness in retaining clients, minimizing hospitalization, or in facilitating clients' basic survival requirements such as stable housing (see Bond, 1991, for discussion of variations in ACT models). In sum, it appears that clients recruited for the present study were receiving similar full-coverage services from the four participating

ACT teams.

### **Demographic Characteristics of Assertive Community Treatment Clients**

Table 2 provides a summary of available demographic data for clients registered in the participating ACT programs at the time of the study.

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Insert Table 2 about here

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These data include age, gender, education, marital status, diagnosis, time spent in assertive community treatment, and days hospitalized in the three years prior to joining ACT.

It should be noted that a total of 385 clients were served by the ACT teams. However, demographic data were available for 317 clients only. Further, as a result of incomplete data sets (i.e., missing data points), in some instances, the descriptive statistic is based on a smaller sample (e.g., age; see Table 2).

Specifically, demographic data for non-participants from the newer, non-hospital affiliated, ACCT program could not be obtained for analysis since the database management system designed to catalogue this information had not yet been implemented. Moreover, hospitalization data spanning the three years prior to admission to ACT could not be obtained for any of the clients registered with the ACCT program. Consequently, hospital days prior to enrollment in ACT are presented for the three hospital affiliated programs, only (i.e., ACTT, CIP, and PSR). However, with the

Table 2.

Overall Demographic Statistics for ACT Clients<sup>1</sup>, Including Means, Standard Deviations (SD), Percentages, and Ranges.

Variable	ACT Clients (n = 317)	
Age (years) (n = 314)	Mean = 44.3 SD = 10.9	Range = 20 - 78
Gender	59.3% - male 40.7% - female	
Education	9.5% - elementary 40% - some secondary 21% - secondary	12.3% - some post-secondary 8.2% - post-secondary 6.3% - unknown
Marital status	65.6% - single 9.5% - married 1.9% - cohabiting 6.9% - separated	10.4% - divorced 1.9% - widowed 1% - unknown
Diagnosis	70% - schizophrenia 14% - mood	5.7% - personality 11% - other
Time in ACT (months)	Mean = 45.6 SD = 30.6	Range = 1 - 98
Hospital days prior to ACT (n = 298)	Mean = 260 SD = 323	Range = 0 - 1095

<sup>1</sup> Unless otherwise indicated, statistics presented are based on 317 clients, and do not reflect ACCT program non-participants.

exception of hospitalization data, demographic information was available for those ACCT clients recruited as study participants ( $n = 19$ ). Hence, these data are included in Table 2.

As seen in Table 2, the mean age of the sample was 44.3 ( $SD = 30.6$ ) years. More males than females were served by the programs. Consistent with the literature, most clients were single (65.6 %). Forty percent of clients had some secondary education, with an additional 21 percent having completed highschool. A further 20.5 percent of clients had at least some post-secondary education. The majority of clients with the ACT programs carried a primary diagnosis of schizophrenia (70.0%). Given that community based programs were developed to serve persons with serious mental illness, this is not surprising.

Although the length of time clients had received services from ACT programs was less than five years on average, program time ranged from 1 month to 98 months, or more than eight years. This range includes newer admissions to the program and also reflects the continuity of care provided to ACT clients, with services being time-unlimited regardless of program tenure. These figures may also be influenced by the time when the four programs were implemented. For instance, the first program to be set up was the ACTT, followed by the CIP, the PSR, and more recently, the ACCT.

Lastly, it may be seen from Table 2 that the range of pre-ACT hospitalization days is also very broad (0 - 1095 days). Whereas many ACT clients may have been admitted at the time programs were implemented, directly from long stays in hospital-based inpatient programs, other, typically younger, clients may have been referred to ACT



directly, thus avoiding hospitalization altogether.

### **Representativeness of the Study Participants Compared to Non-participants**

As indicated earlier, it was hoped that fifty percent of all ACT clients in the four programs would participate in the study. Since only 99 clients agreed to participate, the study cohort could not be said to be randomly sampled. Thus, it was necessary to compare the study sample to non-participants to establish whether or not the study group provided a reasonable representation of the overall client population formed by the four ACT programs.

Table 3 presents demographic data comparing clients recruited for the study (n = 99) with non-participants (n = 218).

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Insert Table 3 about here

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As seen in the table, there were no significant differences between participants and non-participants on the demographic data reported.

Since the lack of demographic information for the community-based ACCT program precluded a more direct assessment of the representativeness of this portion of the study sample, it might be argued that differences were masked by the inclusion of these clients in the participant group. However, repeating these comparisons with the exclusion of the ACCT participants (n = 19) also proved unremarkable (see Table M1). Thus, it was deemed appropriate to include the ACCT participants in the final study

Table 3.

Means, Standard Deviations (SD), Percentages, Ranges, and Comparative Tests for Demographic Characteristics of Study Participants and Non-participants.

Variable	Participants (n = 99)	Non-participants (n = 218)	Test
Age	Mean = 42.9 SD = 9.9 Range = 20 - 67	Mean = 43.3 SD = 11.4 Range = 20 - 77	$t(1, 312) =$ -28, $p = .78$
Gender	59% - male 41% - female	59.6% - male 40.4% - female	$X^2(1, 1) = .03,$ $p = .86$
Education	8% - elementary 38.4% - some secondary 19.2% - secondary 15.1% - some post- secondary 12.1% - post- secondary 5% - unknown	9.6% - elementary 40.4% - some secondary 21.1% - secondary 15.6% - some post- secondary 6.4% - post- secondary 6.8% - unknown	$X^2(1, 5) =$ 2.82, $p = .73$
Marital Status	58.6% - single 8% - married 6% - cohabiting 6% - separated 20.2% - divorced 3% - widowed 1% - unknown	68.8% - single 10% - married 1.8% - cohabiting 6.8% - separated 10% - divorced 1.4% - widowed 1% - unknown	$X^2(1, 6) =$ 8.13, $p = .23$
Diagnosis	61.6% - schizophrenia 22.2% - mood 6.1% - personality 10.1% - other	73.4% - schizophrenia 11% - mood 5.5% - personality 10% - other	$X^2(1, 3) =$ 7.29, $p = .06$

**Table 3.**  
**(cont'd.)**

<b>Time in ACT (months)</b>	<b>Mean = 44.5</b> <b>SD = 33.0</b> <b>Range = 1 - 104</b>	<b>Mean = 43.2</b> <b>SD = 29.4</b> <b>Range = 1 - 104</b>	<b>t (1, 315) =</b> <b>.351,</b> <b>p = .73</b>
<b>Hospital Days (prior to ACT)<sup>2</sup></b>	<b>Mean = 204.0</b> <b>SD = 263</b> <b>Range = 0 - 1095</b>	<b>Mean = 281.4</b> <b>SD = 341</b> <b>Range = 0 - 1095</b>	<b>t (1, 296) =</b> <b>-1.86,</b> <b>p = .06</b>

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<sup>1</sup> Comparison based on 99 participants and 215 non-participants.

<sup>2</sup> Hospitalization data for the ACCT program participants were not available.  
Comparison based on 80 participants and 217 non-participants.

cohort.

Taken together, and in combination with the findings from the IFACT that indicate clients were recruited from similar programs, the study sample appears representative of the total ACT client population from which it was drawn. Hence, the results presented in the following sections pertain only to the study cohort.

#### Summary of Demographic Information for the Study Participants

The demographic data reported thus far was obtained primarily from hospital clinical record database systems, and as seen above, the available data on client characteristics were examined in order to determine suitability of the study cohort. Supplementary demographic information was obtained for the study sample, alone, through the interview process. Thus, a more detailed description of the study participants is presented with regard to their living situations and support networks. Four cases were discarded at the outset since the interviews had not yet been completed at the time of the present data analysis. Thus, the final number of participants in the study dropped to 95.

Table 4 summarizes the descriptive statistics for the 95 clients who participated in the study. Not surprisingly, there was minimal variation in age, gender, education, marital status, diagnosis, and time in assertive community treatment, from the original participant sample (n = 99; see Table 3).

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Insert Table 4 about here

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Table 4.

Means, Standard Deviations (SD), Percentages, and Ranges, of Demographic Variables for ACT Study Participants (n = 95).

Variable	Mean/ Percentages	SD	Range
Age (years)	43.6	10.0	20.1 - 67.4
Gender	58.9% - male 41.1% - female		
Education (years)	11.8	3.4	0 - 20
Marital status	54.7% - single 7.4% - married 7.4% - cohabiting 4.2% - separated 23.2% - divorced 3.2% - widowed		
Diagnosis	62.1% - schizophrenia 22.1% - mood 6.3% - personality 9.5% - other		
Time in ACT (months)	48.4	34.1	1 - 104
Hospital days in nine months prior to study (n = 93)	11.1	25.5	0 - 157

Table 4. (cont'd.)

<b>Main residence in nine months prior to study</b>	81.1% - private home		
	8.4% - boarding home		
	4.2% - rooming house		
	5.3% - group home		
	1.1% - long-term care		
<b>Current living situation</b>	11.6% - spouse/partner		
	4.2% - parents		
	4.2% - children		
	1.1% - other family		
	26.3% - non-family		
	52.6% - alone		
<b>Total number of confidants (n = 94)</b>	6.6	5.0	0 - 29
<b>Income (monthly) (n = 85)</b>	\$1030.52	\$312.54	\$630.00 - \$2400.00
<b>Employed (including volunteer)</b>	29.5% - yes		
	70.5% - no		

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With respect to the number of days spent in hospital nine months prior to the study, it may be seen that participants averaged 11.1 days ( $SD = 25.5$ ) with a range of 0 to 157 days. As suggested earlier, the range in hospitalization days may be influenced by variables such as age or referral source (e.g., hospital inpatient vs. outpatient programs).

Additional demographic information revealed that most of the participants were living at, or below, the poverty line (i.e., mean monthly income = \$1030.00,  $SD = \$312.54$ , National Council of Welfare, 1989). As expected, a large number of participants were unemployed (70.5%). Although 29.5 percent of clients reported they were working at the time of interview, this number is underestimated with regard to earned income since clients were asked to include volunteer work under employment.

The majority of clients lived in private homes (81.1%) with a little over half of the participants living alone (52.6%). On average, participants reported having 6.7 ( $SD = 4.97$ ) confidants (i.e., someone with whom they felt at ease to discuss personal issues). This was endorsed by 92.6 percent ( $n = 88$ ) of the study sample. Consistent with findings reported in the literature, further exploration of this data revealed that a large percentage of clients (87.4%) identified care providers among their confidants (e.g., see Goering et al., 1992; See Table M2). Other interpersonal support came from family (64.8%) and friends (62.1%). Among the confidants listed, 51.6 percent were also identified as consumers of mental health services. A smaller percentage of clients reported having partners (23%) and spiritual leaders (25.3%) among those with whom they could discuss personal issues.

### Descriptive Statistics and Internal Reliability of the Study Instruments

Table 5 shows the means, standard deviations, and coefficients of reliability for each measure.

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Insert Table 5 about here

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As seen in the table, the ACT clients in the present study reported a mean of 49.66 (SD = 10.49) on the Devaluation-Discrimination measure designed to assess respondents' perception of the degree to which they believe persons with mental illness will be rejected. These results are consistent with previous findings (Link, 1987; Link et al., 1989) that report a mean score of 49.8 (SD = 10.68) for repeat-contact psychiatric patients. Moreover, Link and his colleagues determined that the mean score they reported was significantly higher than the scale's midpoint. This suggests that the average ACT client in the present study also strongly endorsed the belief that psychiatric patients are devalued and discriminated against.

With respect to the community integration measures, Table 5 shows a mean of 14.21 (SD = 6.26) for the Physical Integration Scale, 26.14 (SD = 9.71) for the Social Integration Scale, and 7.64 (SD = 2.98) for the Psychological Integration Scale. It is of interest to note these values are similar to those reported by Aubry & Myner (1996) for persons with psychiatric disabilities living in the community.

Mean scores obtained on measures of psychosocial functioning (Mean = 66.40, SD = 8.46) and psychiatric symptoms (Mean = 46.61, SD = 12.23) suggest moderately



Table 5.

**Descriptive Statistics for Devaluation and Discrimination, Physical Integration, Social Integration, Psychological Integration, Brief Psychiatric Rating, Multnomah Community Ability, Perceived Social Support, and Self-esteem, Scales with ACT Clients.**

<b>Instrument</b>	<b>Number of Items</b>	<b>Item Range</b>	<b>Mean (SD)</b>	<b>Range</b>	<b>Coefficient Alpha</b>
Devaluation and Discrimination n = 93	12	1 - 6	49.66 (10.49)	27 - 72	.79
Physical Integration n = 94	12	0 - 4	14.21 (6.26)	0 - 29	.68
Social Integration n = 95	13	1 - 5	26.14 (9.71)	13 - 54	.87
Psychological Integration n = 84	12	0, 1	7.64 (2.98)	0 - 12	.76 <sup>a</sup>
Brief Psychiatric Rating n = 94	24	1 - 7	46.61 (12.23)	27 - 88	.78
Multnomah Community Ability n = 95	17	1 - 5	66.40 (8.46)	47 - 83	.76
Perceived Social Support n = 95	6	1 - 4	18.58 (3.26)	9 - 24	.77
Self-esteem n = 94	10	0 - 3	17.28 (5.32)	4 - 30	.85

<sup>a</sup> Kuder-Richardson 20 coefficient.

high functioning and a fairly low level of psychiatric symptomatology.

The mean score obtained for the study sample on the self-report measure of perceived social support (Mean = 18.58, SD = 3.26) was above the mid-point score of 12. Possibly, this high score reflects the support provided by the ACT teams. Similarly, self-reported self-esteem scores (Mean = 17.28, SD = 5.32) were somewhat higher than expected. For example, in a comparable sample of community dwelling psychiatric patients, Gerber et al. (1997) reported a mean score of 14.10 (SD = 4.02) on the Rosenberg Self-esteem Scale. Although the reasons for the current findings are unclear, possible explanations include a sample selection bias in which clients with higher self-esteem agreed to participate in the study. It is also possible that participants may have experienced an increase in their global sense of self-worth by virtue of their participation in the interviews. Moreover, since interviews were conducted by peers, as part of the overall objectives of the larger study to empower clients, the interview context may also have contributed to an increased sense of self-worth among study participants.

Cronbach's coefficient alpha (Cronbach, 1951) was used to determine the internal consistencies of the scales used in the present study. The Kuder-Richardson 20 formula (Kuder & Richardson, 1937) was used to determine the internal reliability of the Psychological Integration Scale in which items are scored dichotomously (i.e., true or false).

As seen in the table, the measures demonstrated internal consistency (Cronbach's coefficient alpha) ranging from .68 for the Physical Integration Scale, to .87 for the Social Integration Scale. In general, these reliability coefficients are similar to, or higher than,

those found previously (see Methods). The coefficient obtained for the Physical Integration Scale is somewhat lower than that reported by Aubry and Myner (1996).

With the exception of the self-esteem and social integration measures, the coefficients obtained were slightly less than optimal (i.e., .80, see Tabachnick & Fidell, 1996), with substantial variance due to error evident in the measure of physical integration (i.e., 32%). According to Tabachnick and Fidell (1996), variables with error variance in excess of 20 percent should be discarded, if possible. However, since physical integration is integral to the goals of the study, it was retained with the understanding that both statistical power and magnitude of correlation coefficients involving this variable may be undermined.

It is also worth pointing out that, with the exception of the Psychological Integration Scale, the ranges of scores obtained on the measures were somewhat restricted. Most notably, values obtained for the Physical Integration Scale did not represent the upper third of potential scores on this measure. At the same time, though less dramatic, scores at the higher end of the Social Integration Scale and at the lower end of the perceived stigma measure were not represented in the ACT sample. These findings should be taken into consideration when interpreting statistical analyses involving these variables since correlation coefficients may be artificially deflated by variables with restricted ranges (Darlington, 1990; Tabachnick & Fidell, 1996).

## Results of the Study Hypotheses

Using SPSS FREQUENCIES and SPSS EXPLORE programs, univariate descriptive statistics were inspected to detect univariate outliers among the study variables. Examination of plots (i.e., stem-and-leaf, boxplots, scatterplots) led to the identification of one extreme score on the measure of psychiatric symptoms (BPRS,  $Z = 3.39$ ,  $p < .001$ ). As recommended by Tabachnick and Fidell (1996, p. 66), the extreme raw score on this measure was reassigned a value one unit above the next highest score to attach it to the distribution of values, and to reduce its' potential impact in the regression analyses.

In order to determine the presence of multivariate outliers, a standard multiple regression was performed between each of the community integration variables (i.e., Physical, Social, Psychological Integration) and the predictor variable set. This procedure was undertaken for the set of predictors of interest in Hypothesis 2 ( $P = 6$ , where  $P$  equals number of independent variables), and then again in Hypothesis 3, in which the Self-esteem variable was added ( $P = 7$ ). For each analysis, cases with missing data points were excluded list-wise. Analysis was performed using SPSS REGRESSION and SPSS FREQUENCIES to identify violations of the assumptions for multiple regression, including normality, linearity, and homoscedasticity of residuals.

Statistics computed to evaluate collinearity among the predictor variables were found to be within tolerable limits (i.e., .7 to .9). It should also be noted that the

independent variable of interest (i.e., perceived stigma) was not correlated with any of the control variables.

Screening for multivariate outliers for Hypothesis 2, resulted in the detection of one extreme case for the Physical Integration analysis, and one extreme case for the Social Integration analysis (i.e., stem-and-leaf and boxplots of Studentized Deleted Residuals; Norusis, 1995). These cases were deleted list-wise from their respective regression analyses, resulting in samples ranging from 82 cases, for the Psychological Integration variable, to 92 cases for Social Integration.

Scatterplots of standardized residuals against standardized predicted scores for each of the dependent variables revealed no violations of the assumptions required for multiple regression. Using a  $p < .001$  criterion for Mahalanobis distance, no additional multivariate outliers were detected.

Statistical power. As indicated, the data were examined for linearity, homoscedasticity, and normality. Thus, no loss of power is likely attributable to violations of these assumptions required for regression. As well, tolerance statistics indicted low collinearity among the predictors. Since low collinearity suggests the predictor set does not contain redundant variables, no loss of power was expected due to redundancy (Tabachnick & Fidell, 1996).

Small sample size, or more specifically, a small ratio of cases to independent variables, can seriously weaken multiple regression analysis (Kerlinger & Pedhazur, 1973). According to Tabachnick & Fidell (1996), the simplest rule for determining an optimal sample size for testing multiple correlation is  $N \geq 50 + 8m$  (where  $m$  is the

number of independent variables). This fairly rigorous approach assumes a medium sized relationship between the independent variables and the dependent variable,  $\alpha = .05$ , and  $\beta = .20$ . For six predictors, then,  $50 + (8)(6) = 98$  cases would be required to test regression. According to convention, however, a ratio of 10 cases per independent variable is considered sufficient for correlational studies (Darlington, 1990). Thus, the sample size available for analysis in the present study would be considered adequate.

In non-experimental research, however, unreliable variables (e.g., self-report measures) also serve to undermine statistical power. Accordingly, Tabachnick & Fidell (1996) suggest variables should be limited to those with reliability coefficients greater than .80. Since, with the exception of the Social Integration and Self-esteem scales, internal consistency coefficients calculated for measures used in the present investigation were somewhat lower than .80, and only .68 for the Physical Integration Scale, error variance must be acknowledged as a factor potentially decreasing the power of the analyses to accurately detect significant associations. Thus, given the likelihood of measurement error associated with the present study, a larger sample would be desirable in order to maximize the power of the tests (see Kerlinger & Pedhazur, 1973).

With regard to the magnitude of the associations tested, two issues should be borne in mind. First, measurement error, typical of survey research methodologies, may contribute to lowered correlation coefficients. Secondly, correlation coefficients are also potentially reduced due to restricted ranges in measured variables (e.g., due to restricted sampling, Darlington, 1990; Tabachnick & Fidell, 1996). Though still somewhat conservative, an alpha level of .05 was accepted in order to detect smaller associations.

### Hypothesis 1

As indicated, Pearson  $r$  correlations were performed to test the hypothesized inverse relationship between Perceived Stigma and each of the three community integration variables. Table 6 shows the correlation matrix of the dependent measures and Perceived Stigma measure. Although the relationship between Perceived Stigma and each of the community integration variables was in the hypothesized direction, only two of the three bivariate correlations were significant (see Table 6).

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Insert Table 6 about here

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Thus, Hypothesis 1 was supported for Social Integration ( $r(93) = -.17, p < .05$ ) and Psychological Integration ( $r(82) = -.28, p < .01$ ), but not for Physical Integration ( $r(92) = -.10, p = .18$ ).

With respect to the relationships between the dependent measures, consistent with previous findings (Aubry & Myner, 1996), higher levels of Social Integration were associated with greater Physical Integration ( $r(94) = .28, p < .01$ ) and with greater Psychological Integration ( $r(84) = .28, p < .01$ ). Thus, with greater physical presence in the community the likelihood of having social contacts with neighbours also increases. In turn, the greater number of social exchanges with neighbours appears to be positively related to ACT clients' sense of belonging in their communities.

Table 6.

**Pearson  $r$  Correlations Between Perceived Stigma, Physical Integration, Social Integration, and Psychological Integration Measures.**

Variable	Physical Integration	Social Integration	Psychological Integration
Perceived Stigma	-.10 (n = 92)	-.17* (n = 93)	-.28** (n = 82)
Physical Integration		.28** (n = 94)	.13 (n = 83)
Social Integration			.28** (n = 84)

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$



Taken together, these results suggest that although clients' involvement in day-to-day community activities does not appear to be related to perceived stigma, the more clients perceive themselves to be devalued and discriminated against, the less likely they are to interact with their neighbours (social integration) or to feel a sense of belonging in their communities (psychological integration). Moreover, clients' sense of belonging appears to be more strongly associated with their perceptions of being stigmatized than does their contact with neighbours. Thus, as predicted, greater levels of perceived stigma were associated with reduced social and psychological integration among ACT clients.

### Hypothesis 2

It will be recalled that in Hypothesis 2 perceived stigma was expected to make an independent contribution to the prediction of community integration scores over and above that made by demographic, clinical, and social support characteristics. Thus, the variables to be controlled included demographic (i.e., Gender, Age), clinical (i.e., Psychiatric Symptoms, Psychosocial Functioning), and social support (i.e., Perceived Support) measures. As discussed earlier, these variables are thought to have a relationship with measures of community integration.

In the present study, the regression terms used were as follows:

Predictor Variables	Dependent Variables
$X_1 = \text{Gender (coded 1, 0)}$	$Y_1 = \text{Physical Integration}$
$X_2 = \text{Age}$	$Y_2 = \text{Social Integration}$
$X_3 = \text{Psychiatric Symptoms}$	$Y_3 = \text{Psychological Integration}$

**X<sub>4</sub> = Psychosocial Functioning**

**X<sub>5</sub> = Perceived Support**

**X<sub>6</sub> = Perceived Stigma**

Hypothesis 2 was tested using 3 separate sequential (hierarchical) regression analyses. Each analysis used one of the three community integration measures as the dependent variable. For each analysis, the first step was to enter the demographic measures (i.e., Gender and Age) into the regression equation. Next the objectively measured clinical variables (i.e., Psychiatric Symptoms and Psychosocial Functioning) were entered. In the third step, the subjective measure of social support (i.e., Perceived Support) was added, and finally, Perceived Stigma, the independent variable of interest, was added to the regression equation (see below).

Step 1: (Gender + Age)

Step 2: Step 1 + (Psychiatric Symptoms + Psychosocial Functioning)

Step 3: Step 2 + (Perceived Support)

Step 4: Step 3 + (Perceived Stigma)

In this manner, the unique contribution of perceived stigma, after the contribution of background, clinical, and subjective measures were controlled for, was determined for each community integration measure. In the sections that follow, each of the community integration dependent variables will be considered separately.

**Perceived Stigma and Physical Integration.** Although Perceived Stigma was not significantly correlated with Physical Integration, it was predicted *a priori* that Perceived Stigma would make a significant contribution to the variance associated with this

criterion. Thus, the sequential regression analysis was conducted to determine the contribution of client perceptions of stigma to the overall equation, and to examine the relationship between Physical Integration and the remaining control variables.

List-wise deletion of missing cases resulted in a reduced sample size ( $n = 90$ ). Table 7 shows the Pearson correlation coefficients ( $r$ ) between the demographic characteristics, clinical measures, Perceived Support, Perceived Stigma, and Physical Integration.

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Insert Table 7 about here

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As seen in the table, only Age ( $r(90) = -.18, p < .05$ ), Psychosocial Functioning ( $r(90) = .41, p < .01$ ), and Perceived Support ( $r(90) = .39, p < .01$ ), were correlated with Physical Integration scores. Thus, it appears that as clients' psychosocial functioning and perceptions of support increase, so does their physical presence in the community. However, as clients age, their involvement in day-to-day activities appears to decline.

Table 8 summarizes the results of the sequential regression analysis for Physical Integration.

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Insert Table 8 about here

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Included in the table are the multiple regression coefficient ( $R$ ), multiple  $R^2$ , and tests of the unique variance associated with each step of analysis (i.e.,  $R^2$  change and  $F$  change).

Table 7.

Correlation Matrix of Variables for Sequential Regression Analysis Between Physical Integration (DV), Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 90).

Variable	Physical Integration	Gender	Age	Psychiatric Symptoms	Psychosocial Functioning	Perceived Support
Gender	.06					
Age	-.18*	.02				
Psychiatric Symptoms	-.15	.04	.02			
Psychosocial Functioning	.41***	-.14	-.10	-.39***		
Perceived Support	.39***	-.22*	-.19*	-.36***	.32***	
Perceived Stigma	-.08	-.04	-.02	.13	-.02	-.05

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 8.

**Sequential Multiple Regression of Physical Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 90).**

Step	<u>R</u>	<u>R</u> <sup>2</sup>	<u>R</u> <sup>2</sup> change	<u>F</u> change
<b>Step 1</b>				
(Gender + Age)	.18	.03	.03	1.53
<b>Step 2</b>				
Step 1 + (Psychiatric Symptoms + Psychosocial Functioning)	.45***	.20	.17	8.97***
<b>Step 3</b>				
Step 2 + (Perceived Support)	.54***	.29	.09	10.68**
<b>Step 4</b>				
Step 3 + (Perceived Stigma)	.54***	.30	.00	.49

\*  $p < .05$   
 \*\*  $p < .01$   
 \*\*\*  $p < .001$

As seen in the table, the multiple regression coefficient ( $R$ ) was significantly different from zero at the second, third, and fourth steps. After Step 4, with all independent variables in the equation,  $R = .54$ ,  $F(6, 83) = 5.83$ ,  $p < .001$ . This model accounted for 30 percent of the variance in Physical Integration scores ( $R^2 = .30$ , Adjusted  $R^2 = .25$ ).

After Step 1, with Gender and Age in the equation,  $R^2 = .03$ ,  $F(2, 87) = 1.53$ ,  $p = .22$ . After Step 2, with Psychiatric Symptoms and Psychosocial Functioning added to variables in the first step,  $R^2 = .20$ ,  $F(4, 85) = 5.39$ ,  $p < .001$ . With Perceived Support added in Step 3,  $R^2 = .29$ ,  $F(5, 84) = 6.94$ ,  $p < .001$ . Thus, whereas the addition of demographic characteristics did not account for a significant proportion of the variance, clinical characteristics entered in Step 2 and the social support variable entered in Step 3 resulted in significant increments in  $R^2$  (i.e.,  $R^2\text{change} = .17$ ,  $F_{\text{change}}(2, 85) = 8.97$ ,  $p < .001$ , and  $R^2\text{change} = .09$ ,  $F_{\text{change}}(2, 84) = 10.68$ ,  $p < .01$ , respectively).

After Step 4, with Perceived Stigma added to the prediction of Physical Integration by demographic information, client characteristics, and Perceived Support, the amount of variance accounted for was not significant ( $R^2\text{change} = .00$ ,  $F_{\text{change}}(1, 83) = .48$ ,  $p = .49$ ). Thus, the addition of Perceived Stigma to the model did not reliably improve  $R^2$ , thereby indicating that the devaluation and discrimination experienced by ACT clients in the present sample appears not to be associated with their day-to-day presence in the community.

Table 9 summarizes the results of the last step in the sequential regression analysis for Physical Integration. Included in the table are the unstandardized regression coefficients ( $B$ ), standard error of the unstandardized regression coefficients ( $SEB$ ),

standardized regression coefficients ( $B$ ),  $t$  statistics, and the squared semi-partial correlations ( $s_r^2$ ). The  $R$ ,  $R^2$ , Adjusted  $R^2$ , and intercept after entry of all six independent variables are also shown.

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Insert Table 9 about here

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As can be seen in Table 9, only Psychosocial Functioning ( $t(90) = 3.56, p < .001$ ) and Perceived Support ( $t(90) = 3.24, p < .01$ ) contributed significantly to the overall model, accounting for 11 ( $s_r^2 = .11$ ) and 9 ( $s_r^2 = .09$ ) percent of the unique variance in Physical Integration, respectively. Thus, in this analysis, ACT clients who were rated by staff as having higher psychosocial functioning (i.e., social and behavioural competence) and who perceived greater social support, also reported more involvement in day-to-day community activities.

Indeed, post hoc statistical (stepwise) regression analysis with the complete variable set supported these findings (see Table M3). In the best fitting regression model, Psychosocial Functioning ( $R^2 = .17, F(1,88) = 18.22, p < .001$ ) and Perceived Support ( $R^2\text{change} = .08, F_{\text{change}}(1, 87) = 8.70, p < .01$ ) each accounted for a significant proportion of the variance in Physical Integration scores. Together, these variables accounted for 25 percent of the variance in Physical Integration scores ( $R^2 = .25, \text{Adjusted } R^2 = .23, F(2, 87) = 14.25, p < .001$ ).

Based on these results, then, ACT clients' psychosocial functioning and perception of greater social support appear to be associated with more involvement in

Table 9.

Step 4 of Sequential Multiple Regression of Physical Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 90).

Variables	<u>B</u>	<u>SEB</u>	<i>B</i>	<i>t</i>	<u>sr<sup>2</sup></u>
Gender	2.16	1.12	.18	1.84	.03
Age	-.05	.06	-.08	-.84	.01
Psychiatric Symptoms	.06	.06	.12	1.18	.01
Psychosocial Functioning	.27	.08	.37	3.56**	.11
Perceived Support	.64	.20	.34	3.24**	.09
Perceived Stigma	-.04	.06	-.06	-.69	.00

Total Equation

$\underline{R}^2 = .30$  (Adjusted  $\underline{R}^2 = .25$ )

$\underline{R} = .54$ ,  $F(6, 86) = 5.83^{***}$

Intercept = -16.14

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$



day-to-day community activities and visibility in the community. In contrast, an ACT client's gender, age, psychiatric symptoms, and perceptions of stigma, do not appear to influence day-to-day community activities. Although with increasing age, clients' physical integration appears to decline (see bivariate correlation in Table 7), this relationship may be either mediated by, or redundant to, the relationship between physical integration scores and other variables in the set, most probably perceived support.

Perceived Stigma and Social Integration. An initial regression run, performed between the complete predictor variable set and Social Integration, led to the identification of Psychiatric Symptoms as a "suppressor variable" in the analysis (see Darlington, 1990; Tabachnick & Fidell, 1996). Comparing the standardized regression coefficient for Psychiatric Symptoms and the bivariate correlation between this variable and Social Integration revealed the beta weight ( $B = .27$ ) to be substantially larger than the simple correlation ( $r(91) = .15$ , see Table 10). Also, somewhat unexpectedly, Psychiatric Symptoms contributed significantly to the model after Step 4 ( $t(91) = 2.42$ ,  $p < .05$ ) of the analysis accounting for 5 percent ( $\Delta r^2 = .05$ ) unique variance in Social Integration (see Table M4). Moreover, the positive relationship between Psychiatric Symptoms and Social Integration ( $B = .27$ ) would suggest that as clients' symptoms increase, so does their frequency of social contact with neighbours. Whereas, the exact nature of the social contacts clients have with neighbours may be debated, it is clear that, by logical extension, the observed relationship between Psychiatric Symptoms and Social Integration is contrary to common sense.

According to several authors (e.g., Darlington, 1990, Tabachnick & Fidell, 1996),

when variables behave in this fashion, they are labeled “suppressor variables” and their influence on the regression analysis should be addressed. Suppressor variables correct for, or subtract out, variance (in other IVs or even in the DV) that is irrelevant to the prediction of the dependent variable, thus making other independent variables (e.g., Perceived Stigma) appear more important in the regression model. Hence, the Psychiatric Symptoms variable was excluded from the sequential regression analysis.

Table 10 shows the Pearson  $r$  correlations between the demographic characteristics, Psychosocial Functioning, Perceived Support, Perceived Stigma and the Social Integration measure. In this analysis, four cases were deleted list-wise due to missing values ( $n = 92$ ).

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Insert Table 10 about here

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As seen in the table, Age ( $r(91) = -.20, p < .05$ ), Perceived Support ( $r(91) = .24, p < .01$ ), and Perceived Stigma ( $r(91) = -.19, p < .05$ ) were correlated with Social Integration scores. It is worth repeating that Perceived Stigma was not correlated with any of the control variables, thus making its contribution to the sequential regression solution more clear. As is evident in the table, Gender and Psychosocial Functioning were not related to Social Integration. However, clients’ perceptions of support were positively correlated with the dependent measure. In contrast, clients’ age and perceptions of being stigmatized were negatively related to their social interactions with neighbours.

Table 11 summarizes the results of the sequential regression analysis for Social

Table 10.

Correlation Matrix of Variables for Sequential Regression Analysis Between Social Integration (DV), Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 91).

Variable	Social Integration	Gender	Age	Psychiatric Symptoms	Psychosocial Functioning	Perceived Support
Gender	-.09					
Age	-.18*	.02				
Psychiatric Symptoms	.15	.06	.02			
Psychosocial Functioning	-.00	-.15	-.06	-.39***		
Perceived Support	.23*	-.20*	-.23*	-.34***	.26**	
Perceived Stigma	-.20*	-.07	-.00	.08	.01	-.05

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Integration.

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Insert Table 11 about here

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As is evident from Table 11, only Step 4 of the regression analysis (i.e., with Perceived Stigma added to the prediction of Social Integration by Gender, Age, Psychosocial Functioning, and Perceived Support) achieved significance ( $R = .35$ ,  $F(5, 86) = 2.39$ ,  $p < .05$ ). However, the unique contribution by Perceived Stigma to clients' Social Integration scores was statistically non-significant ( $R^2\text{change} = .04$ ,  $F\text{change}(1, 86) = 3.62$ ,  $p = .06$ ). Overall, only 12 percent of the observed variance in Social Integration was accounted for by the last step of the model ( $R^2 = .12$ ; Adjusted  $R^2 = .07$ ).

It appears, then, that Hypothesis 2 was not supported with regard to Social Integration when the variance accounted for by variables other than Perceived Stigma was controlled. While adding Perceived Stigma to the regression equation resulted in a significant increase in  $R^2$ , its' contribution to the overall model (i.e., 4%) was not significant (i.e.,  $p = .06$ ).

As seen in Table 12, which summarizes the results of the last step in the sequential regression analysis for the Social Integration measure, none of the standardized regression coefficients ( $B$ ) were correlated with the dependent measure.

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Insert Table 12 about here

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Table 11.

Sequential Multiple Regression of Social Integration (DV) on Gender, Age, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 92).

Step	<u>R</u>	<u>R</u> <sup>2</sup>	<u>R</u> <sup>2</sup> change	<u>F</u> change
Step 1				
(Gender + Age)	.22	.05	.05	2.25
Step 2				
Step 1 + (Psychosocial Functioning)	.22	.05	.00	.88
Step 3				
Step 2 + (Perceived Support)	.29	.09	.04	3.50
Step 4				
Step 3 + (Perceived Stigma)	.35	.12	.04	3.62

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Table 12.

Step 4 of Sequential Multiple Regression of Social Integration (DV), on Gender, Age, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 92).

Variables	<u>B</u>	<u>SEB</u>	<i>B</i>	<i>t</i>	<u>sr<sup>2</sup></u>
Gender	-1.55	2.01	-.08	-.77	.00
Age	-.15	.10	-.16	-1.50	.02
Psychosocial Functioning	-.06	.12	-.06	-.57	.00
Perceived Support	.57	.32	.20	1.78	.03
Perceived Stigma	-.18	.10	-.19	-1.90	.04

Total Equation

$$\underline{R}^2 = .12 \text{ (Adjusted } \underline{R}^2 = .07)$$

$$\underline{R} = .35, F(5, 86) = 2.39^*$$

$$\text{Intercept} = 35.82$$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

A post hoc stepwise regression analysis with the reduced variable set (i.e., excluding Psychiatric Symptoms) included only Perceived Support in the best fitting model ( $R = .24$ ,  $F(1, 90) = 5.51$ ,  $p < .05$ ) to predict Social Integration (see Table M5). This model accounted for only 6 percent of the variance associated with Social Integration ( $R^2 = .06$ , Adjusted  $R^2 = .05$ ). Although this model indicated that clients' frequency of social contacts with neighbours is related to their perceptions of social support, it has very limited generalizability given the relatively small amount of variance explained.

The unique contribution of Perceived Stigma approached significance (i.e.,  $p = .06$ ) and accounted for 4 percent of the variance in Social Integration scores. However, when variance accounted for by other variables was removed, clients' perceptions of devaluation and discrimination were not significantly related to Social Integration. Thus, the increased perceptions of stigma associated with decreased Social Integration scores at the bivariate level are likely mediated by the relationship between Social Integration and other variables in the predictor set.

Perceived Stigma and Psychological Integration. Table 13 shows the Pearson  $r$  correlations between the demographic characteristics, clinical measures, Perceived Support, Perceived Stigma, and the Psychological Integration measure.

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Insert Table 13 about here

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Thirteen cases were deleted list-wise due to missing values, resulting in a reduced sample size ( $n = 82$ ). As seen in the table, Psychiatric Symptoms ( $r(82) = -.31$ ,  $p < .01$ ),

Table 13.

Correlation Matrix of Variables for Sequential Regression Analysis Between Psychological Integration (DV), Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 82).

Variable	Psychological Integration	Gender	Age	Psychiatric Symptoms	Psychosocial Functioning	Perceived Support
Gender	-.02					
Age	.04	.01				
Psychiatric Symptoms	-.31**	.08	.01			
Psychosocial Functioning	.33***	-.20*	-.10	-.33***		
Perceived Support	.37***	-.25**	-.21*	-.31**	.26**	
Perceived Stigma	-.28**	-.07	-.06	.09	-.03	-.08

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$



Psychosocial Functioning ( $r(82) = .33, p < .001$ ), Perceived Support ( $r(82) = .37, p < .001$ ), and Perceived Stigma ( $r(82) = -.28, p < .01$ ) were related to Psychological Integration. Whereas, clients' perceptions of stigma and psychiatric symptoms were negatively related to their sense of belonging in the community, greater psychosocial functioning and perceptions of support were positively related to increased psychological integration. Again, it is worth noting that Perceived Stigma was not correlated with any of the control variables, thus reducing ambiguity in evaluating its' contribution to the regression solution.

A summary of the results of the sequential regression analysis for Psychological Integration appears in Table 14.

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Insert Table 14 about here

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Included in the table are the multiple regression coefficient ( $R$ ), multiple  $R^2$ , and tests of the unique variance associated with each step of the regression analysis (i.e.,  $R^2$  change and  $F$  change). As is evident, the multiple regression coefficient ( $R$ ) was significantly different from zero at the second, third, and fourth steps.

After Step 1, with Gender and Age in the equation,  $R^2 = .00, F(2, 79) = .08, p = .92$ . With Psychiatric Symptoms and Psychosocial Functioning added to Gender and Age in Step 2,  $R^2$  increased to .16, indicating that 16 percent of the variance in psychological Integration scores was accounted for by these variables ( $F(4, 77) = 3.74, p < .01$ ). With Perceived Support added in Step 3,  $R^2$  increased further ( $R^2 = .24, F(5, 76) = 4.84, p <$

Table 14.

Sequential Multiple Regression of Psychological Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 82).

Step	<u>R</u>	<u>R</u> <sup>2</sup>	<u>R</u> <sup>2</sup> change	<u>F</u> change
<b>Step 1</b>				
(Gender + Age)	.05	.00	.00	.92
<b>Step 2</b>				
Step 1 + (Psychiatric Symptoms + Psychosocial Functioning)	.40**	.16	.16	7.38***
<b>Step 3</b>				
Step 2 + (Perceived Support)	.49***	.24	.08	7.91**
<b>Step 4</b>				
Step 3 + (Perceived Stigma)	.55***	.30	.06	6.66**

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

.01). Thus, the addition of clinical characteristics in Step 2 and the social support variable in Step 3 resulted in significant increments in  $R^2$  (i.e.,  $R^2$ change = .16,  $F$ change(2, 77) = 7.38,  $p < .01$ , after Step 2 and  $R^2$ change = .08,  $F$ change(1, 76) = 7.90,  $p < .01$ , after Step 3).

After Step 4, the addition of Perceived Stigma to the prediction of Psychological Integration from demographic and client characteristics, also resulted in a significant increment in  $R^2$  ( $R^2$ change = .06,  $F$  change(1, 75) = 6.66,  $p < .01$ ). When perceived Stigma was added to the regression equation, the amount of variance in Psychological Integration scores accounted for by demographic, clinical, and support variables, increased to 30 percent ( $R^2 = .30$ , Adjusted  $R^2 = .25$ ). Thus, Hypothesis 2 was supported for Psychological Integration, with Perceived Stigma explaining a significant portion of the variance in Psychological Integration scores, over and above that accounted for by the control variables.

Examining the relative importance (i.e.,  $B$ ) and unique contributions ( $sr^2$ ) of the independent variables in the last step of the analysis (see Table 15) revealed that Perceived Support ( $t(82) = 2.72$ ,  $p < .01$ ) accounted for 7 percent of the unique variance in Psychological Integration scores, followed by Perceived Stigma ( $t(82) = -2.58$ ,  $p < .05$ ) which accounted for 6 percent.

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Insert Table 15 about here

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Lastly, the unique contribution of Psychosocial Functioning to the overall model was 5

Table 15.

Step 4 of Sequential Multiple Regression of Psychological Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 82).

Variables	<u>B</u>	<u>SEB</u>	<i>B</i>	<i>t</i>	<u>sr<sup>2</sup></u>
Gender	.58	.62	.10	.95	.01
Age	.04	.03	-.14	-1.42	.02
Psychiatric Symptoms	-.03	.03	-.13	-1.20	.01
Psychosocial Functioning	.08	.04	.25	2.40*	.05
Perceived Support	.27	.10	.29	2.72**	.07
Perceived Stigma	-.07	.03	-.25	-2.60**	.06

Total Equation

$$\underline{R}^2 = .30 \text{ (Adjusted } \underline{R}^2 = .25)$$

$$\underline{R} = .55, F(6, 75) = 5.44***$$

$$\text{Intercept} = -.16$$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

percent ( $t(82) = 2.39, p < .05$ ). Thus, the remaining variance in Psychological Integration accounted for by the model (i.e., 12%) was shared jointly by all the predictor variables.

Post hoc stepwise regression analysis with the complete variable set (see Table M6), also included Perceived Support ( $R^2 = .13, F(1,80) = 12.26, p < .001$ ), Psychosocial Functioning ( $R^2$  change = .07,  $F(1,78) = 7.00, p < .01$ ), and Perceived Stigma ( $R^2$  change = .06,  $F$  change(1,79) = 6.04,  $p < .05$ ), in the best fitting regression model. Together, these variables explained 26 percent of the variance in Psychological Integration scores ( $R^2 = .26, \text{Adjusted } R^2 = .23, F(3, 78) = 9.18, p < .001$ ).

Thus, ACT clients in the present study who reported higher perceptions of stigmatization, lower perceptions of social support, and who were rated by staff as having lower psychosocial functioning (i.e. lower social and behavioural competence), were also likely to report decreased psychological integration. However, an ACT client's gender, age, and psychiatric symptoms, did not appear to be related to the extent to which they reported a sense of belonging in their communities, given the other variables in the regression analysis.

Although higher psychiatric symptom ratings were related to lower psychological integration at the bivariate level (see Table 13), Psychiatric Symptoms did not contribute to the regression equation in the final step. Thus, it appears the relationship between Psychiatric Symptoms and Psychological Integration is mediated by other variables, such as Perceived Support, or Psychosocial Functioning.

### Hypothesis 3

It will be recalled that Hypothesis 3 concerned the role of self-esteem as a possible mediating variable in the relationship between perceived stigma and community integration. Since Hypothesis 2 was not supported for Physical or Social Integration, and Hypothesis 3 was predicated on demonstrating support for Hypothesis 2, Hypothesis 3 was not explored for these aspects of community integration. However, the unique contribution of Perceived Stigma in explaining variance associated with Psychological Integration was confirmed. Thus, the following section summarizes results of Hypothesis 3 with this criterion.

To examine the hypothesized role of self-esteem as an explanatory mechanism in the relationship between Perceived Stigma and Psychological Integration, a sequential regression analysis was conducted as in Hypothesis 2, but also controlling for self-esteem ( $X_7 = \text{Self-esteem}$ ). Again, Perceived Stigma was entered in the last step. The sequential regression analysis proceeded as follows:

- Step 1: (Gender + Age)
- Step 2: Step 1 + (Psychiatric Symptoms + Psychosocial Functioning)
- Step 3: Step 2 + (Perceived Support)
- Step 4: Step 3 + (Self-esteem)
- Step 5: Step 4 + (Perceived Stigma)

Perceived Stigma, Self-esteem, and Psychological Integration. Table 16 shows the Pearson  $r$  correlations between Self-esteem, demographic characteristics, clinical measures, Perceived Support, Perceived Stigma, and Psychological Integration.

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Insert Table 16 about here

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Fourteen cases were deleted list-wise due to missing values, resulting in a reduced sample size ( $n = 81$ ). As seen in the table, Self-esteem was correlated with Psychological Integration ( $r(81) = .35, p < .001$ ), Psychiatric Symptoms ( $r(81) = -.45, p < .001$ ), and Perceived Support ( $r(81) = .51, p < .001$ ). Surprisingly, Perceived Stigma was not significantly related to Self-esteem ( $r(81) = -.17, p = .07$ ).

Table 17 summarizes the results of each step of the sequential regression analysis. Included in the table are the multiple regression coefficient ( $\beta$ ), multiple  $R^2$ , and tests of the unique variance associated with each step of the analysis (i.e.,  $\Delta R^2$  change and  $\Delta F$  change).

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Insert Table 17 about here

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As seen in the table, the multiple regression coefficient ( $\beta$ ) was significantly different from zero at the second, third, fourth, and fifth steps.

Following Step 5, with all independent variables entered, including Self-esteem,  $\beta = .56, F(7, 73) = 4.81, p < .001$ . This model accounted for 32 percent of the variance in Psychological Integration scores ( $R^2 = .32, \text{Adjusted } R^2 = .25$ ).

The addition of Self-esteem to the prediction of Psychological Integration from demographic and client characteristics, in Step 4, did not reliably improve  $R^2$  ( $\Delta R^2$  change

Table 16.

Pearson  $r$  Correlations Between Self-esteem, Age, Gender, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support, Perceived Stigma, and Psychological Integration (n = 81).

Variable	Psychological Integration	Gender	Age	Psychiatric Symptoms	Psychosocial Functioning	Perceived Support	Perceived Stigma
Self-esteem	.35***	.11	-.16	-.48***	.17	.26**	-.17

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$



Table 17.

Sequential Multiple Regression of Psychological Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support, Self-esteem (Control Variables), and Perceived Stigma (IV) (n = 81).

Step	<u>R</u>	<u>R</u> <sup>2</sup>	<u>R</u> <sup>2</sup> change	<u>F</u> change
<b>Step 1</b>				
(Gender + Age)	.05	.00	.00	.92
<b>Step 2</b>				
Step 1 + (Psychiatric Symptoms + Psychosocial Functioning)	.41**	.17	.17	7.60***
<b>Step 3</b>				
Step 2 + (Perceived Support)	.50***	.25	.09	8.55**
<b>Step 4</b>				
Step 4 + (Self-esteem)	.51***	.26	.01	.33
<b>Step 5</b>				
Step 4 + (Perceived Stigma)	.56***	.32	.05	5.60*

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

= .01,  $F_{\text{change}}(1,74) = 0.96, p = .33$ ). Although the overall model was significant ( $R = .51, F(6, 74) = 4.40, p < .01$ ), Self-esteem did not contribute meaningfully to the prediction equation. However, entering Perceived Stigma in the fifth step resulted in a significant increment in  $R^2$  ( $R^2_{\text{change}} = 0.05, F_{\text{change}}(1, 73) = 5.59, p < .05$ ), with Perceived Stigma accounting for a unique (5%) portion of the variance associated with Psychological Integration. Thus, the addition of Self-esteem did not substantially alter the contribution of Perceived Stigma in accounting for variance associated with Psychological Integration.

Following Rosenfield (1997), it was predicted that perceived stigma would have a significant association with community integration because of its' relationship with self-esteem. It was expected that controlling for self-esteem would reduce the contribution of Perceived Stigma in the prediction of Psychological Integration scores to non-significance. Table 18 displays the results of the last step in the analysis.

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Insert Table 18 about here

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Included in the table are the unstandardized regression coefficients ( $B$ ), standard error of the unstandardized regression coefficients ( $SEB$ ), standardized regression coefficients ( $\beta$ ),  $t$  statistics, and the squared semi-partial correlations ( $sr^2$ ) for the seven independent variables. The overall  $R$ ,  $R^2$ , Adjusted  $R^2$ , and intercept are also shown.

Applying Rosenfield's (1997) approach (i.e., comparing the unstandardized regression coefficients for Perceived Stigma with, and without (see Table 15), Self-

Table 18.

Step 5 of Sequential Multiple Regression of Psychological Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support, Self-esteem (Control Variables), and Perceived Stigma (IV) (n = 81).

Variables	<u>B</u>	<u>SEB</u>	<i>B</i>	<u>t</u>	<u>sr<sup>2</sup></u>
Gender	.56	.65	.09	.86	.00
Age	.04	.03	-.15	-1.54	.02
Psychiatric Symptoms	-.02	.03	-.10	-.91	.00
Psychosocial Functioning	.08	.04	.25	2.35*	.05
Perceived Support	.24	.11	.26	2.12*	.04
Self-esteem	.05	.07	.10	.77	.00
Perceived Stigma	-.06	.03	-.23	-2.37*	.05

Total Equation

$\underline{R}^2 = .32$  (Adjusted  $\underline{R}^2 = .25$ )

$\underline{R} = .56$ ,  $F(7, 73) = 4.80^{***}$

Intercept = -1.20

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

esteem controlled in the regression analysis), showed the coefficient to be reduced by only ten percent. Equally unremarkable changes were also observed among coefficients for the control variables. Thus, it appears that Hypothesis 3 was not supported with regard to self-esteem mediating the relationship between perceptions of stigma and community integration in the present ACT client cohort.

## General Discussion

Employing a non-experimental (correlational) design, the present study examined the relationship between community tenured seriously mentally ill clients' perceptions of devaluation and discrimination (i.e., stigma) and different aspects of community integration. Aspects of community integration studied included clients' participation in day-to-day activities in community settings (i.e., physical integration), social contacts with their neighbours (i.e., social integration), and sense of belonging in their communities (i.e., psychological integration). In light of numerous reports documenting the negative impact of stigma in the lives of people with serious mental illness (Deweese et al., 1996; Herman & Smith, 1989; Kearns & Taylor, 1989; Link et al., 1989, 1997; Nikkonen, 1996; Pulice et al., 1995; Rosenfield, 1997), it was proposed that clients' perceptions of stigma would be negatively related to their physical, social, and psychological integration in the community. Moreover, the widespread implementation of assertive community treatment programs and their success in increasing community tenure among people with serious mental illness (Baronet & Gerber, 1998; Essock et al., 1998) provided the impetus to consider clients' perceptions of stigma with regard to their adjustment to community life. Recruiting study participants from a full-coverage program from which a homogeneous sample (i.e., persons with serious mental illness) could be drawn, was also desirable.

In addition to establishing an inverse relationship between perceptions of stigma

and the aforementioned aspects of community integration, a major goal of the present study was to determine whether or not perceived stigma would successfully predict community integration scores once other client characteristics associated with integration were considered (e.g., psychosocial functioning, age). It was also proposed that client self-esteem, adversely affected by the stigmatization process, would mediate the relationship between perceived stigma and community integration.

In the present ACT cohort, ratings of clients' involvement in the three aspects of community integration (i.e., physical, social, and psychological integration) were similar to those reported by Aubry and Myner (1996) for community resident psychiatric patients living in specialized housing programs. Indeed, having more social contacts with neighbours (i.e., social integration) was associated with greater physical presence in the community, and also, with a stronger sense of belonging. The positive relationship between physical and social integration suggests that greater physical presence in the community increases opportunities for social exchanges with neighbours. At the same time, increased social integration was also associated with a greater sense of community, suggesting that increased contact with neighbours may be conducive to increased feelings of belonging. Alternatively, having a sense of belonging may contribute to client-initiated social interactions with neighbours.

Consistent with previous findings (Link, 1987; Link et al., 1989; Rosenfield, 1997), clients in the present study strongly endorsed the view that persons with psychiatric illness are likely to experience devaluation and discrimination from members of the community at large. This is not surprising since ACT clients have been described

as frequent users of mental health services who are unable to sustain independent living in the community without adequate support. At the same time, these clients have been labeled with a psychiatric diagnosis and, for the most part, have been involved with mental health professionals from the point of diagnosis to their current community placements. Thus, consistent with the modified labeling theory (Link, 1987; Link et al., 1989), these ACT clients would be expected to perceive themselves as stigmatized. While establishing that ACT clients have strong expectations of rejection is important in itself, and helps to illustrate their subjective experience of community living, of interest in the present study was whether or not these perceptions of stigma have negative implications for their adjustment in the community.

As predicted, clients' expectations of devaluation and discrimination from community members were inversely related to their social integration and to their psychological integration. In effect, the more clients' believed themselves to be stigmatized, the fewer social contacts they had with neighbours and the weaker their sense of belonging in the community. In contrast, high levels of perceived stigma did not appear to have any bearing on the extent to which clients participated in the activities of daily living (e.g., grocery shopping).

It will be recalled that other investigators have provided evidence for the relationship between perceived stigma and compromised social networks among persons carrying a mental illness label (Link et al., 1989). Specifically, the stigmatization process was reported to have negative effects on securing or maintaining non-familial supports, which presumably included neighbours. Since the outcome measure for social integration

in the present study asked respondents to rate the frequency of various forms of social contact with neighbours, as opposed to identifying the people who provide different types of support, a direct comparison cannot be made with findings from the Link et al. study. However, the inverse relationship observed between clients' perception of stigmatization and social contacts with neighbours is consistent with results obtained by these, and other investigators, which suggest that having a stigmatized identity affects social interactions in which such individuals are involved (e.g., Farina et al., 1968; 1971; see also Crocker & Major, 1994, and Link et al., 1992, for review).

Clients' perceptions of stigmatization were also inversely related to their sense of belonging in the community. As suggested by the modified labeling theory, psychiatrically labeled clients acquire and accept the belief that devaluation and rejection is imminent from non-labeled community members. Thus, it is understandable that the more clients perceive themselves to be devalued and discriminated against, the less likely they are to feel a sense of belonging in their neighbourhood. As well, since "belonging" is antithetical to assuming a stigmatized identity, which is characterized by social rejection and marginalization, it is not unreasonable to expect clients to feel alienated from other community members.

The proposed inverse relationship between clients' perceived stigmatization and day-to-day activities, as suggested by descriptive studies, was not supported in the present study (e.g., Nikkonen, 1996). To some extent, this may be attributable to the support provided by program staff to clients participating in ACT programs. For instance, ACT program staff provide clients with, among other things, escorted assistance for grocery



shopping and transportation to and from appointments. While the instrumental support provided by staff (a basic tenet of the ACT philosophy) is important, it may have obfuscated any relationship between perceived stigma and clients' activities in the community.

In addition to demonstrating a simple relationship between aspects of community integration and perceived stigma, the present study examined the unique contribution of perceived stigma to each aspect of community integration once other factors shown to be related to community integration were considered. Three separate sequential regression analyses were completed. Generally speaking, the results revealed that ACT clients' perceptions of devaluation and discrimination were differentially related to their day-to-day functioning, social contacts with neighbours, and their sense of belonging in the community.

Physical integration. When other variables associated with community integration were considered, clients' levels of perceived stigma were unrelated to their day-to-day activities. As suggested, program staff involvement with ACT clients' daily activities may have played a role in masking any adverse effect of clients' perceived stigma with regard to their physical integration. Thus, perceptions of stigma, though strong, may have no bearing on whether or not clients fulfill the activities of daily living, since these are assured through the intense support provided by the ACT model of service delivery. Indeed, and consistent with previous reports, variables found to be relevant for physical integration scores in the present study included clients' perceptions of social support (e.g., Segal et al., 1979), as well as staff ratings of clients' psychosocial functioning. (e.g., Nagy

et al., 1988; Segal & Aviram, 1978).

As reviewed earlier, other investigators have found that resident characteristics (e.g., age, gender) were related to participation in community activities (Nagy et al., 1988; Nikkonen, 1996). Specifically, older, female residents, were least likely to engage in activities in the community or to venture out of their homes. Although age was found to have a simple inverse relationship with physical integration in the present investigation, neither age nor gender were found to be significantly related to physical integration once other variables were accounted for. Again, it is possible that, among other things, the assistance available from assertive community treatment staff contributed to clients' experience of being supported, particularly among older, female, clients.

Social integration. Although the addition of perceived stigma increased the proportion of variance accounted for in social integration scores to a level of statistical significance, the overall magnitude of the variance accounted for by all variables in the equation was not substantial (i.e., 12%). Hence, the simple relationship between perceived stigma and social integration was reduced by the presence of other variables relevant to community integration. However, in the best fitting model, only clients' perceived social support was found to be significantly correlated with scores on the social integration measure.

In general, the extent of interaction between clients and their neighbours was not adequately explained by any of the variables examined in the present study. Since the intent of the study was primarily to ascertain the role of client-based perceptions of stigma in relation to community integration, the control variables were chosen to

represent client, rather than environmental characteristics. With respect to the social integration of clients in the present study, it is clear that other factors are involved. In addition to client characteristics not examined in the present study, neighbour and neighbourhood characteristics, such as family composition, income level, transience, attitudes towards mental illness, and the social integration of neighbours themselves, among other things, may contribute to explaining social integration in the ACT study sample (e.g., see Aubry & Myner, 1996; Nagy et al., 1988).

It may be recalled that specialized housing programs have been criticised on the basis that they likely reinforce segregation of residents from the rest of the community. Aubry and Myner (1996) found comparable physical and psychological integration ratings for clients living in specialized housing programs and non-disabled community residents living near them. However, the two groups differed with respect to their social integration. These investigators suggested that placement in supported independent living situations might be expected to facilitate social contacts between seriously mentally ill persons and their neighbours (see also Ridgeway & Zippel, 1990).

Even though clients in the present investigation were receiving intensive ACT support and most were living alone (52.6%) or in private settings (81.1%), their social integration scores were similar to those obtained for the housing program clients studied by Aubry and Myner (1996). Although a comparison between ACT clients and community residents was not conducted in the present study, the similarity in scores between the ACT cohort and the specialized housing program sample suggests that supported independent living may not be sufficient to ensure persons with psychiatric

disabilities engage in social interactions with their neighbours.

Without question, a comparison of ACT clients and their neighbours, with regard to social integration, would be required to more fully explore this possibility. However, if ACT operates, as has been suggested, as an extension of the hospital into the community, with the dependency this entails, it may not be reasonable to expect greater integration among clients. Indeed, the ACT model has been criticized on the grounds that it fosters dependency and is paternalistic in its' approach (see McGrew, Wilson, & Bond, 1994b; Prince, Demidenko, & Gerber, in press).

Psychological integration. A significant finding in the present study is that perceived stigma is related to ACT clients' sense of belonging in their communities, even with the contribution of other relevant variables removed. This relationship, between clients' perceptions of stigma and their sense of community, is worthy of consideration, particularly since the psychological "sense of community" has been linked to feelings of safety, satisfaction with the community, perceived control with regard to problem-solving in the community (i.e., empowerment), and the ability to function competently as a community member (see McMillan & Chavis, 1986, for review). The results of the present investigation suggest that the perception of being stigmatized contributes to clients' feelings of marginalization in their neighbourhoods.

Whereas placing clients in independent living situations might be expected to eventually inculcate them with a sense of belonging, it appears that the perception of being stigmatized may interfere with this fundamental aspect of community adjustment. The extent of psychological integration reported by the present study cohort was similar

to previous findings for specialized housing residents. Since a sense of belonging may be derived in different ways, as suggested by Aubry and Myner (1996), it is conceivable that ACT clients may evaluate their sense of community partly in terms of their ongoing involvement with ACT staff.

Although the source of their feelings of devaluation and rejection are not readily discernable, and may emanate from several sources (e.g., illness, poverty, unemployment), it is possible that clients' on-going involvement with mental health caregivers, which identifies clients as having a psychiatric disorder, may contribute to their sense of marginalization from neighbours. In this sense, as long as clients are identified by, and identify with, their roles as psychiatric patients, simply being in the community and living in independent settings may not be sufficient to eradicate the fear of rejection clients experience, nor its' effect on how welcome clients feel in their home communities.

Self-esteem. It will be recalled that modified labeling theory views lowered self-esteem as a negative result of acquiring a stigmatized status through labeling, which in turn mediates further adjustment outcomes such as employment opportunities (Link et al., 1989), as well as influencing coping strategies (e.g., withdrawal) adopted by stigmatized individuals (Westbrook et al., 1992).

Rosenfield's (1997) study, examining the role of self-esteem in the relationship between stigma and life satisfaction, found that by controlling for self-esteem, the contribution of perceived stigma was reduced to non-significance. Thus, if perceived stigma was related to community integration because of its' effect on self-esteem, then controlling for self-esteem in the analysis would have been expected to diminish the

association between perceived stigma and community integration. However, the hypothesized role of self-esteem as mediating between clients' perceptions of stigma and their level of community integration was not supported in the present study.

As indicated, the current findings demonstrate that perceived stigma is important to an individual's feeling of belonging in the community. However, given adequate psychosocial functioning and social support, client self-esteem, as measured by the Rosenberg Self-esteem scale (Rosenberg, 1965), and in the context of the present study, did not explain this relationship. Moreover, in contrast to Rosenfield's findings, perceived stigma and self-esteem were not related in the ACT sample.

Although it is possible that only clients with higher self-esteem agreed to participate in the study (i.e., selection bias), it is also reasonable to suggest that high levels of self-esteem may have been influenced by clients' perceptions of support, attributable, in part, to ACT. In this regard, important differences between Rosenfield's Fountain House sample and the present ACT cohort should be noted. Whereas ACT services take place in the community, the Fountain House program was delivered through a specialized unit in a centralized day-program format. In addition, whereas ACT services are continuous, Clubhouse clients had been minimally involved with the program for one month in the previous year, but were not necessarily involved at the time of the interview. Thus, it is conceivable that perceptions of support, engendered by ongoing intense ACT support availability, influence self-esteem.

Alternatively, as reviewed earlier, alteration in self-concept, or compromised self-esteem, is often touted as an almost inevitable response to acquiring a stigmatized status

(e.g., Andrews, 1998; Link, 1987; Link et al., 1989; Goffman, 1963; Penn & Martin, 1998; Rosenfield, 1997). However, Crocker (1999), and others (Crocker and Major, 1989; Crocker & Quinn, 1998) have shown that, among people belonging to stigmatized groups, self-esteem may itself be mediated by various factors that serve to protect it (Hillman, Wood, & Sawilowski, 1998), such as the presence of similar others (e.g., Frable et al., 1998; Rosenberg, 1995), selectively devaluing things one is not good at, and attributing negative outcomes to belonging to a stigmatized group (e.g., Specht, King, & Francis, 1998).

Thus, it is reasonable to suggest that the presence of similar others, in the form of client interviewers in the present study, may have overshadowed any relationship between stigma and self-esteem in the ACT cohort. Indeed, self-esteem scores in the present sample were higher than expected for persons with a serious mental illness (e.g., see Gerber et al., 1997). Moreover, the Rosenberg Self-esteem Scale (Rosenberg, 1965) is a unidimensional, global measure, which is subject to mood and temporal instability (Andrews, 1998). Further, in order to accommodate clients with a range of functional abilities, the self-esteem scale was completed through face-to-face interviews, rather than through self-report. In Rosenfield's (1997) study, which demonstrated a relationship between perceived stigma and self-esteem, face-to-face interviews were conducted by staff (i.e., social work, nursing), and not by other clients. Hence, it is conceivable that the discrepancy in findings between these two studies might be attributable to the empowering effect of peer interviewers. If so, results of the present study lend support to Crocker's (1999) assertion that global self-esteem is constructed in the situation, and

depends on the meanings that people bring to a situation as well as features of the situation. Thus, the self-esteem of stigmatized individuals would be expected to vary across situations, as it does for non-stigmatized individuals, particularly when measured as a global construct.

Given its' temporal and situational variability, a global measure may not provide a reliable means of evaluating self-esteem as a possible mechanism by which clients' perceptions of stigma might influence their sense of community belonging. Instead, instruments that utilize a multi-dimensional approach (e.g., Andrews & Brown, 1993; see also Andrews, 1998, for review) might be more robust to the effects of mood, or interviewer effects, and are likely to provide more reliable, and meaningful, information concerning client self-esteem that is independent of situational factors. According to Andrews (1998), recent studies examining lability and temporal variability, instead of actual level of self-esteem, have been successful in predicting depressive symptoms. It is possible, therefore, that a relationship between stigma and variability in self-esteem might be established using a longitudinal approach.

The above notwithstanding, whether or not self-esteem is threatened by having a stigmatized status may also depend on the success with which stigmatized individuals are able to invoke the self-protective mechanisms described earlier. It should be emphasized that persons with a serious mental illness are among the most seriously stigmatized members of society, ranking fourth among 40 different stigmatizing diseases and conditions (Davies & Morris, 1989). In fact, schizophrenia was rated as only slightly less stigmatizing than rabies, alcoholism, and drug addiction according to public surveys



conducted in the U.K, Bengal, and Thailand (Davies & Morris, 1989). Moreover, substance abuse is not uncommon among mentally ill persons, thus potentially compounding the stigma experienced by, so-called, “dually diagnosed” individuals.

Simply restricting one’s affiliation to similarly disenfranchised others, or devaluing things one is not good at, when one may have deficits affecting multiple areas of adjustment, or even rejecting the opinions of others as prejudiced, when one may share those opinions, is unlikely to adequately protect client self-esteem. To this end, continued efforts may be required on the part of the mental health system to advocate with clients to help dispel their fear of being rejected, and to address factors that promote fear and discrimination among members of their communities. Such an approach would amount to embarking on a campaign of assertive community integration that, in addition to encouraging clients to function autonomously and empowering them with enhanced social skills, would engage them as full community participants by creating opportunities for dialogue and social contact between clients and members of their chosen communities.

Limitations of the study. Although the study group was comparable to the larger ACT population from which it was drawn, the final sample could not be considered truly random. In addition, the sample size was somewhat smaller than anticipated, which, combined with sources of error variance, may have limited the power of the statistical tests in supporting rejection of the null hypothesis (i.e., no relationship between perceived stigma and community integration). Hence, these results may not generalize to other ACT clients. Indeed, prior to making recommendations based on these results, repeating

the study with another sample from the ACT population, as well as replication with different sample groups, should be considered. Improving reliability of the study measures by conducting test-retest and inter-rater reliability assessments, as appropriate, would also be desirable.

In considering the findings of this study, inasmuch as they suggest that perceived stigma may hinder psychological integration, and to a lesser extent, social integration, among ACT clients, the magnitude of significant correlations was fairly modest. Thus, it may be argued that conclusions based on these results are tentative. However, the analyses were successful in detecting significant relationships despite the considerable measurement error typical of survey research methodologies. Hence, it is also plausible that the robustness of the observed relationships allowed them to be detected. As such, it is suggested that the present findings are meaningful.

### Summary

Taken together, the present study demonstrated that perceived stigma is differentially involved in community integration. Stigma did not appear to be involved in physical integration, perhaps by virtue of the intensive support provided by ACT staff. Although clients' perceived stigma had a simple relationship with social integration, when other relevant community integration variables were considered, its' relevance was overshadowed. However, with regard to psychological integration, client perceptions of stigma were important and highlight the fact that, despite being present in the community, the perception of being marginalized may hinder the experience of belonging.

The relationships between the control variables and the community integration variables were also examined. Common to all three community integration variables was the importance of perceived social support. Indeed, perceived support was the only variable in the present study able to account for variance associated with social integration. Psychosocial functioning and perceived support were important to both physical integration and psychological integration.

In conclusion, it appears that despite being participants in the activities of daily living and engaging in interpersonal contacts with their neighbours, clients' perceptions of being stigmatized may interfere with the sense of belonging they experience in their communities. Programs such as assertive community treatment have emphasized intensive and continuous service support as fundamental to optimizing community tenure among clients with serious mental illness (Baronet & Gerber, 1998). In light of the findings of the present study, that perceived social support, in conjunction with clients psychosocial functioning, is significantly related to the extent to which clients are able to fulfill the tasks of daily living, it would seem this emphasis is well placed. These findings support the rationale underlying community treatment programs in general. Enhancing psychosocial functioning and providing support to clients are clearly important to facilitating clients' adjustment to community living. However, despite being physically present in the community, and despite the intensive support they receive, clients' continue to believe that they are devaluated and discriminated against by community members.

Since it is clear that ACT clients may anticipate social rejection, it is appropriate

to address this aspect of their subjective experience of life in the community. In this respect, much work remains to counter the effects of psychiatric stigma, not only in the social realm (i.e., anti-stigma campaigns), but also from the perspective of the individual (e.g., challenging beliefs, skills training). Assertive community treatment programs have been successful in delivering services, primarily medical treatment and instrumental support, that promote community tenure among seriously mentally ill clients. However, failing to address clients' perceptions of devaluation and discrimination by non-disabled community peers will likely only perpetuate their exclusion from full and equal partnership in their communities. Thus, inasmuch as the psychological well-being of ACT clients is of significant importance to mental health planners and care-givers, openly addressing stigma-related issues with clients should be paramount.

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**Appendix A**

**Index of Fidelity to Assertive Community Treatment**

The individual IFACT items and scoring procedures are described below. When appropriate, information on ideal model specifications, importance ratings, and data sources also are described.

### Variables Used

#### A. Staffing

Small client:staff ratio: calculated by taking the number of active clients on the caseload and dividing by the number of full-time direct service staff (including all team members — bachelor level staff, team coordinator, RNs, MSWs, MDs, etc.), using fractions for part-time staff. In this analysis, the maximum caseload size and the maximum number of case workers during the time frame are used to calculate the ratio. Based on the expert's ratings, the ideal client:staff ratio was set to be 10:1 or lower (score = 1), and the maximum client:staff ratio was set to be 20:1 (score = 0). Intermediate client:staff ratios receive scores according to the proportion of the standard achieved (i.e., score = 2 - .1 x client:staff ratio).

Limited team size: calculated as the number of full-time clinical staff equivalents, as defined above. Based on the experts' ratings, the ideal minimum team size was set to be 7, the maximum was set to be 10, and the minimum was set to be 3. Team sizes 7 or greater but less than 10 are scored as 1, team sizes of 2 or lower are scored as 0, team sizes less than 7 are scored proportional to the percent of the standard obtained.

Psychiatrist on team: calculated according to the time psychiatrist is available per week divided by the time psychiatrist optimally needed. Based on the results of the expert interviews, the minimum number of psychiatrist hours per week for a caseload of 50 clients was set to be 13 (rounded mean value). Programs exceeding the minimum standard receive scores of 1, programs not meeting the standard receive scores proportional to the percent of the standard obtained (e.g., estimated time available/13).

Nurse on team: whether or not the team includes at least a 3/4-time nurse on the team (3/4-time criterion based on the expert interviews). Programs receive ratings of 1 if a 3/4-time or full-time nurse is on the team, and 0 otherwise. None of our sites with nurses reported a nurse on the team for less than 3/4-time.

#### B. Organization of Services

Team as primary therapist: whether or not the outreach team performs the role of "primary therapist" for the client. The primary therapist role designates the person, within the local mental health system, with primary clinical and record-keeping (e.g., treatment plans) responsibility for the client. Programs receive ratings of 1 (primary therapist) or 0 (not primary therapists).

Separate site for team: whether or not the outreach team's offices are located in a separate building from the parent agency's main offices. Programs receive ratings of 1 (separate building) or 0 (shared building).



Shared caseloads: the degree to which all staff members on the team have contact with all clients on a regular basis (e.g., through rotation), as contrasted to individual caseloads in which specific staff workers are responsible for specific clients. These ratings were based on consultants' judgments (0-100%).

Daily team meetings: whether the outreach team meets as a group each weekday to discuss their entire caseload. Programs receive ratings of 1 if they meet daily and 0 if they do not.

Coordinator provides direct service: whether or not the supervisor devotes at least half-time to direct service. Programs receive scores of 1 if the supervisor provides direct service at least half-time, and 0 otherwise.

24-hour availability: the degree to which clients have access to the outreach team outside of usual business hours. Programs receive ratings of 1 if they provide 24-hour direct access to the team and 0 if they did not. In cases where access to the team is triaged by the CMHC emergency 24-hour on call service, intermediate scores of .5 are assigned.

Time-(un)limited services: whether or not the outreach team serves clients without any expectation of transferring them to another program. Programs receive ratings of 1 (time-unlimited) or 0 (time-limited). Programs Muncie) offering both time-limited and time-unlimited options receive scores of .5.

### C. Service Intensity

A sample of the first 12 months of service data for clients in each program was used to measure service intensity. Service intensity is coded in two units: frequency and hours. Frequency refers to the number of contacts; hours refers to the cumulative number of hours of contact. All data are converted to a monthly average. Service intensity data should be obtained from service logs completed by the case managers. The following types of contacts are coded:

In vivo contacts: face-to-face service contacts with clients in their homes and in community settings (e.g., restaurants). Based on the original TCL program, programs receive scores of 1 if they average greater than 12.1 visits per month. Programs not meeting the standard receive scores proportional to the estimated percent of the standard obtained (i.e., mean number of in vivo contacts/12.1).

Office contacts avoided (Proportion of face-to-face contacts in the office): the ratio of office visits (face-to-face contacts with clients in ACT team's office) to the sum of home and community visits and office visits. Based on the expert's ratings, programs receive scores of 1 if greater than 75% of contacts are not in the office. Programs not meeting the standard receive scores proportional to the estimated percent of the standard obtained.

Intensive treatment (Total contacts): all contacts of any kind, including office contacts, in vivo contacts, phone contacts with client and phone or face-to-face contacts with collaterals (contacts with persons or agencies on behalf of client). Based on the original TCL program, programs receive scores of 1 if they average greater than 18.5 total contacts per month. Programs not meeting the standard receive scores proportional to the estimated percent of the standard obtained.

IFACT scoring criteria for scores of 1, 0 and intermediate scores between 1 and 0.

Variable	Assigned score		
	1	Intermediate	0
Client:staff ratio(CSR)	CSR < 10:1	$2-.1*(CSR)$	CSR > 20:1
Team size(TS)	6 < TS < 10	$.2*TS - .4$	TS < 3
Psychiatrist availability(PA)	PA > 13 hrs. per 50 clients	PA/13	PA = 0
Nurse on team(NT)	NT > 30 hrs. per week	—	otherwise
Team is primary therapist (PT)	PT = YES	—	otherwise
Separate site(SS)	SS = YES	—	otherwise
Shared caseloads(SC)	— Score assigned based on clinical judgment —		
Daily team meetings(TM)	TM = YES	—	otherwise
Coordinator provides direct service(CDS)	CDS > .5 FTE	—	otherwise
24-hour on call availability (OC)	OC = yes	OC brokered => score = .5	otherwise
Time limited services(TL)	TL = yes	—	otherwise
In vivo focus(IV)	IV > 12.1/month	IV/12.1	IV = 0
Office contacts avoided, i.e., %in vivo (PIV)	PIV > 75%	PIV/75	PIV = 0
Intensive treatment, i.e., total contacts (IT)	IT > 18.5/month	IT/18.5	IT = 0

Note: FTE = full time equivalent

## **Appendix B**

### **Socio-demographic Information:**

**Client Self-Report Questions**

**ACT Staff Informant Questions**

**Emergency Room Visit Log**

**Hospitalization Log**

Client Self-Report Questions

1. Gender: Female  
Male

2. What is your date of birth?  
(mm/dd/yy) \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

3. How many years of school did you complete?

1	2	3	4	5	6	7	8	9	10
Primary					Secondary				
11	12	13	14	15	16	17	18	19	20+
Post-secondary									

4. What is your marital status?

- a. Single, Never Married      b. Married      c. Co-habiting with Significant Other
- d. Separated      e. Divorced      f. Widowed

5. Are there any people with whom you feel at ease and can talk to about personal issues?

Yes      No

6. Among these people, how many are:

Family members \_\_\_\_\_ Friends \_\_\_\_\_ Spiritual leader \_\_\_\_\_  
(including spouses)

Care providers \_\_\_\_\_ Boyfriend \_\_\_\_\_  
Girlfriend \_\_\_\_\_  
or partner \_\_\_\_\_ Other \_\_\_\_\_

7. How many of these have also received mental health treatment? \_\_\_\_\_

ACT Staff Informant Questions

1. Length of Program Participation: \_\_\_\_\_ months
  
2. Age at first psychiatric hospitalization (in years): \_\_\_\_\_ (enter "98" if never)
  
3. Indicate the consumer's diagnoses (given by a licensed mental health professional) using the following categories. Select one or more:

Mood disorder	Developmental handicap	Specific disorder of childhood/adolescence
Anxiety disorder	Substance-related disorder	Other
Schizophrenic disorder	Mental disorders due to a medical condition	Unknown
Personality disorder	Delerium, dementia, amnestic, other cognitive disorders	
  
4. Has the consumer ever been employed?    Yes    No
  
5. Is the consumer currently working, including volunteer work?    No    Yes
  
6. Did the consumer have a regular source of income/benefits during the past 9 months?  
Yes            No
  
7. If consumer did have a regular source of income/benefits, indicate average monthly income during the past 9 months. (Code 9999 if unknown)    \$\_\_\_\_\_
  
8. The consumer currently (in the past week) lives with (indicate all that apply):

Spouse/Partner	Parents	Child(ren)	Other family
Non-family person(s)	Alone		

**ACT Staff Informant Questions (cont'd.)**

9. Which of the following best represents the consumer's current residential setting?  
Select one:

Private house/apartment	Group home/Co-op	Psychiatric Hospital
Hostel/shelter	Retirement home	General Hospital
Boarding house	Long term care facility	Chronic Care Hospital
Foster home	Correctional facility	On the street
Rooming house	Specialty hospital	Other _____

10. Which of the following best represents the consumer's main residential setting over the past 9 months? Select one:

Private house/apartment	Group home/Co-op	Psychiatric Hospital
Hostel/shelter	Retirement home	General Hospital
Boarding house	Long term care facility	Chronic Care Hospital
Foster home	Correctional facility	On the street
Rooming house	Specialty hospital	Other _____

11. How often does the consumer have any contact with his/her primary worker?

Daily    At least weekly    At least monthly    Less than monthly    Not at all

# CMHEI - Service/ Resource Use Form

## Emergency Room Visit Log

(Please print using BLOCK letters and numbers inside boxes)

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ID:

Date (mm/dd/yy):   /   /

Person Completing Form:

Indicate Period:  Baseline  Follow-up 3  
 Follow-up 1  Follow-up 4  
 Follow-up 2

Has the consumer used emergency room services during the PAST 90 DAYS ?

- No If no, go to next page.  
 Yes If yes, complete the following for each ER visit:

Name of Hospital for ER visit	City	Province (if not ON)	Purpose (check all that apply)	Stayed overnight in holding bed?	Led to a hospital admission?
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
		<input type="text"/> <input type="text"/>	<input type="radio"/> Psy <input type="radio"/> Med <input type="radio"/> SA <input type="radio"/> Oth	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

**Purpose:** Psy = Psychiatric  
 SA = Substance Abuse  
 Med = Medical  
 Oth = Other

Shade circles like this:   
 Not like this:

49729

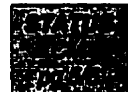




32104

# CMHEI - Hospitalization Log

(Please print using BLOCK letters or numbers inside boxes)



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ID:

Date (mm/dd/yy):  /  /

Person Completing Form:

Indicate Period:  Baseline  Follow-up 3  
 Follow-up 1  Follow-up 4  
 Follow-up 2

Has the consumer had any hospital stays during the past 9 MONTHS?  Yes  No If no go to next page

If yes, please provide the following information for each separate stay:

Hospital	Reason (Type Code)	Type Code	Type Code	Admitted	Days in Hospital	Discharge
	<input type="radio"/> Psy <input type="radio"/> SA <input type="radio"/> Med	<input type="radio"/> PPH <input type="radio"/> GH1 <input type="radio"/> GH <input type="radio"/> Other	<input type="radio"/> Sp <input type="radio"/> GH <input type="radio"/> GH	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
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	<input type="radio"/> Psy <input type="radio"/> SA <input type="radio"/> Med	<input type="radio"/> PPH <input type="radio"/> GH1 <input type="radio"/> GH <input type="radio"/> Other	<input type="radio"/> Sp <input type="radio"/> GH <input type="radio"/> GH	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
	<input type="radio"/> Psy <input type="radio"/> SA <input type="radio"/> Med	<input type="radio"/> PPH <input type="radio"/> GH1 <input type="radio"/> GH <input type="radio"/> Other	<input type="radio"/> Sp <input type="radio"/> GH <input type="radio"/> GH	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
	<input type="radio"/> Psy <input type="radio"/> SA <input type="radio"/> Med	<input type="radio"/> PPH <input type="radio"/> GH1 <input type="radio"/> GH <input type="radio"/> Other	<input type="radio"/> Sp <input type="radio"/> GH <input type="radio"/> GH	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
	<input type="radio"/> Psy <input type="radio"/> SA <input type="radio"/> Med	<input type="radio"/> PPH <input type="radio"/> GH1 <input type="radio"/> GH <input type="radio"/> Other	<input type="radio"/> Sp <input type="radio"/> GH <input type="radio"/> GH	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
	<input type="radio"/> Psy <input type="radio"/> SA <input type="radio"/> Med	<input type="radio"/> PPH <input type="radio"/> GH1 <input type="radio"/> GH <input type="radio"/> Other	<input type="radio"/> Sp <input type="radio"/> GH <input type="radio"/> GH	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No

\*: Reason:                      Psy: Psychiatric    SA: Substance Abuse    Med: Medical

\*\* : Type Codes:              PPH: Provincial Psychiatric Hospital    SP: Specialty Hospital  
   GH1: General hospital with psychiatric ward (schedule 1)  
   GH: General hospital without psychiatric ward (non-schedule 1)

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**Appendix C**

**Devaluation-Discrimination Scale**

Devaluation-Discrimination Scale	Strongly agree	Agree	Agree slightly	Slightly disagree	Disagree	Strongly disagree
1. Most people would willingly accept a former psychiatric patient as a close friend						
2. Most people believe that a person who has been in a psychiatric hospital is just as intelligent as the average person						
3. Most people believe that a former psychiatric patient is just as trustworthy as the average citizen						
4. Most people would accept a fully recovered former psychiatric patient as a teacher of young children in a public school						
5. Most people feel that entering a psychiatric hospital is a sign of personal failure						
6. Most people would not hire a former psychiatric patient to take care of their children, even if he or she had been well for some time						
7. Most people think less of a person who has been in a psychiatric hospital						
8. Most employers will hire a former psychiatric patient if he or she is qualified for the job						
9. Most employers will pass over the application of a former psychiatric patient in favor of another applicant						
10. Most people in my community would treat a former psychiatric patient just as they would treat anyone						
11. Most young people would be reluctant to date someone who has been hospitalized for a serious psychiatric disorder						
12. Once they know a person was in a psychiatric hospital, most people will take his or her opinions less seriously						

**Appendix D**  
**Physical Integration Scale**

**Physical Integration Scale (Community Presence)**

We would like to find out how often you have been involved in different kinds of community activities during the past month. In the past month, how often did you (Circle your answer):

1. Go to a shopping centre or large shopping area?	Frequently	Fairly Often	Occasionally	Rarely	Never
2. Attend a movie or concert?	Frequently	Fairly Often	Occasionally	Rarely	Never
3. Go to a sports event?	Frequently	Fairly Often	Occasionally	Rarely	Never
4. Participate in outside sport activities?	Frequently	Fairly Often	Occasionally	Rarely	Never
5. Visit a park or museum?	Frequently	Fairly Often	Occasionally	Rarely	Never
6. Go to a restaurant, bar or coffee shop?	Frequently	Fairly Often	Occasionally	Rarely	Never
7. Go to a community centre?	Frequently	Fairly Often	Occasionally	Rarely	Never
8. Go to a church or place of worship?	Frequently	Fairly Often	Occasionally	Rarely	Never
9. Go for a walk?	Frequently	Fairly Often	Occasionally	Rarely	Never
10. Participate in work (paid, volunteer, or in a sheltered workshop)?	Frequently	Fairly Often	Occasionally	Rarely	Never
11. Go to a library?	Frequently	Fairly Often	Occasionally	Rarely	Never
12. Go to a barber shop or beauty salon?	Frequently	Fairly Often	Occasionally	Rarely	Never

**Appendix E**  
**Social Integration Scale**

**Social Integration Scale (Contact with Neighbours)**

For the purpose of this study, neighbours are defined as people who live near your home. By neighbourhood, we mean the surrounding area within normal walking distance of your home. An important aspect of neighbourhood life involves the contact that goes between residents of a neighbourhood. In the next group of questions, we would like to find out how often you have had the following kinds of contact with your present neighbours. How often have you (Circle your answer):

- |  |            |              |              |        |       |
|--|------------|--------------|--------------|--------|-------|
| 1. Said hello or waved to a neighbour when seeing them on the street?  | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 2. Received a ride from a neighbour?   | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 3. Gone with a neighbour on a social outing such as shopping, to a movie, or other similar kind of event?  | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 4. Discussed neighbourhood issues and problems with a neighbour?   | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 5. Helped a neighbour by looking after their home while they were away and taking care of such things as watering plants, gathering mail, or feeding pets? | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 6. Been informed by a neighbour about a event such as a neighbourhood meeting, church bazaar, or similar event?  | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 7. Been invited by a neighbour into their home for coffee, drink, or other kind of socializing?  | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 8. Assisted a neighbour with a household task such as a minor house repair, shoveling snow, mowing the lawn, or moving furniture?                          | Frequently | Fairly Often | Occasionally | Rarely | Never |
| 9. Talked with a neighbour about personal issues such as family concerns, work problems, or health?  | Frequently | Fairly Often | Occasionally | Rarely | Never |

**Social Integration Scale** (cont'd)

<b>10. Borrowed things from a neighbour such as books, magazines, dishes, tools, recipes, or anything else?</b>	<b>Frequently</b>	<b>Fairly Often</b>	<b>Occasionally</b>	<b>Rarely</b>	<b>Never</b>
<b>11. Discussed with a neighbour such things as home repairs, gardening, or other matters related to improving a home?</b>	<b>Frequently</b>	<b>Fairly Often</b>	<b>Occasionally</b>	<b>Rarely</b>	<b>Never</b>
<b>12. Told a neighbour about your family doctor, dentist, or other professional services that you use?</b>	<b>Frequently</b>	<b>Fairly Often</b>	<b>Occasionally</b>	<b>Rarely</b>	<b>Never</b>
<b>13. Had a conversation with a neighbour when seeing them on the street?</b>	<b>Frequently</b>	<b>Fairly Often</b>	<b>Occasionally</b>	<b>Rarely</b>	<b>Never</b>

**Appendix F**  
**Psychological Integration Scale**



**Psychological Integration Scale (Sense of Belonging)**

These questions are intended to find out about how you feel about the neighbourhood and the people living in it. For the purpose of answering these questions, the block refers to the street you live on. Read each statement carefully and please indicate whether you think it is true or false when it comes to describing yourself. (Circle your answer).

- |  |      |       |
|--|------|-------|
| 1. I think my block is a good place for me to live.                            | TRUE | FALSE |
| 2. People on this block share the same values.                                 | TRUE | FALSE |
| 3. My neighbours want the same things from the block.                          | TRUE | FALSE |
| 4. I can recognize most of the people who live on my block.                    | TRUE | FALSE |
| 5. I feel at home on this block.   | TRUE | FALSE |
| 6. Very few of my neighbours know me.  | TRUE | FALSE |
| 7. I care about what my neighbours think of my actions.                        | TRUE | FALSE |
| 8. I have almost no influence over what this block is like.                    | TRUE | FALSE |
| 9. If there is a problem on the block, people who live here can get it solved. | TRUE | FALSE |
| 10. It is very important to me to live on this particular block.               | TRUE | FALSE |
| 11. People on this block generally don't get along with each other.            | TRUE | FALSE |
| 12. I expect to live on this block for a long time.                            | TRUE | FALSE |

**Appendix G**

**Brief Psychiatric Symptom Rating Scale**



# CMHEI - Brief Psychiatric Rating Scale (24 item)

(Please print using BLOCK letters and numbers inside boxes)



180

ID:

Date (mm/dd/yy):  /  /

Person Completing Form:

Indicate Period :  Baseline  Follow-up 3  
 Follow-up 1  Follow-up 4  
 Follow-up 2

**FILL THE APPROPRIATE CIRCLE to represent level of severity for each symptom in the PAST WEEK.**

not present    very mild    mild    moderate    moderately severe    severe    extremely severe

**1. SOMATIC CONCERNS - degree of concern over present bodily health. Rate the degree to which physical health is perceived as a problem by the client, whether they have a realistic basis or not.**

*Have you been concerned about your physical health in the past week? Have you had any physical illness or seen a medical doctor lately? What does s/he say is wrong? Has anything about your health interfered with your ability to perform your daily activities? Did you ever feel that parts of your body had changed or stopped working properly?*

**2. ANXIETY - reported apprehension, fear, panic or worry. Rate only the client's statements, not observed anxiety which is rated under the item "Tension"**

*Have you been worried at all during the past week? What do you worry about? Have you felt nervous or frightened? Do you find yourself worrying about things like money or the future? When you are feeling nervous, do your palms sweat, or your heart race? How often do you feel this way? How much of the time have you been (use respondent's description of anxiety)? Does it interfere with your usual activities?*

**3. DEPRESSION - include sadness, unhappiness, anhedonia, preoccupation with depressing topics, hopelessness, loss of self-esteem. Don't include vegetative symptoms.**

*What has your mood been like in the past week? Have you felt depressed, sad or down in the dumps? Do you find you've lost interest in things you used to enjoy, like being with friends or watching TV? How long do these sad feelings last? Do they make it difficult for you to do your usual activities? When you feel like that, are you able to stop and think of happier things when you want to?*

**4. SUICIDALITY - expressed desire, intent or actions to harm or kill oneself. Has felt as though life is not worth living, or felt like ending it all. If reports suicidal ideation, does the client have a specific plan?**

*Have you felt that life wasn't worth living? Have you thought about harming or killing yourself? Have you felt tired of living or as though you would be better off dead? Have you ever felt like ending it all? How often have you thought about (use patient's description of suicide)? Did you (Do you) have a specific plan?*

**5. GUILTY - Overconcern or remorse for past behaviour. Rate only the client's statements; do not infer guilty feelings from depression, anxiety or neurotic defenses.**

*In the past week, is there anything you feel guilty about, or feel ashamed of? Do you tend to blame yourself for things that have happened in the past? How often have you been thinking about this? Does it interfere with your usual activities? Have you told anyone else about these feelings?*

**6. HOSTILITY - animosity, contempt, belligerence, threats, arguments, tantrums, property destruction, fights and other expressions of hostile attitudes or actions.**

*In the past week, how have you been getting along with others? Do you find you've been unusually grumpy, or easily irritated by other people? How do you show it? In the past week, have you found you've been losing your temper or getting so irritable that you shout at others, start arguments or get into fights? Have you hit anyone in the past week?*

Shade circles like this:   
 Not like this:

9062



# CMHEI - Brief Psychiatric Rating Scale

(page 2 of 3)

9062

181

ID: 

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not present    very mild    mild    moderate    moderately severe    extremely severe

**7. ELEVATED MOOD** - a pervasive, sustained and exaggerated feeling of well-being, cheerfulness, euphoria, optimism that is out of proportion to the circumstances.

*Have you felt so good or high that other people thought that you were not your normal self? Have you been feeling cheerful and "on top of the world" without any reason? Did it seem like more than just feeling good? How long did it last?*

**8. GRANDIOSITY** - exaggerated self-opinion, self-enhancing conviction of special abilities or powers or identity as someone rich or famous. Rate only client's statements, not his or her demeanor.

*In the past week, did you often feel superior or special compared to other people? Do you think you have any special abilities or powers? What are they? In the past week, have you thought that you might be somebody rich or famous? Have you told anyone else about this, or acted on these ideas?*

**9. SUSPICIOUSNESS** - expressed or apparent belief that other persons have acted maliciously or with discriminatory intent. Include persecution by supernatural or other non human agencies.

*Do you feel uncomfortable in public? Does it seem as though others are watching you? Are you concerned about anyone's intentions toward you? Is anyone going out of their way to give you a hard time, or trying to hurt you? Do you feel in any danger? How often have you been concerned that (use consumer's description)?*

**10. HALLUCINATIONS** - reports perceptual experiences in the absence of relevant external stimuli.

*Some people say they can hear noises or voices when no one else is around. Has this happened to you in the past week? (If hears voices..) What do the voices say? In the past week, did you ever have visions or see things that others do not see? Did you smell any strange odours that others don't smell? (If yes to any hallucinations...) How do you explain these things? How often did you experience these (use respondent's description of hallucinations)? Have these experiences made it difficult to go about your usual routine?*

**11. UNUSUAL THOUGHT CONTENT** - unusual, odd, strange or bizarre thought content. (thought insertion, withdrawal, broadcast, grandiose, somatic, persecutory delusions)

*In the past week, did you ever feel that someone/ something could control your thoughts/ behavior, or that someone could read your mind? Have you been receiving any special messages from people/ objects around you? Have you seen references to yourself on TV or in newspapers in the past week? Is anything like electricity or radio waves affecting you? Are thoughts being put in your head that are not your own? How often do these strange things happen to you?*

**12. BIZARRE BEHAVIOUR** - reports of behaviours which are odd, unusual or psychotically criminal. Not limited to interview period. Include inappropriate sexual behaviour and inappropriate affect.

*Have you done anything that has attracted the attention of others? Have you done anything that could have gotten you into trouble with the police? Have you done anything that seemed unusual or disturbing to others?*

**13. SELF NEGLECT** - hygiene, appearance or eating behaviour below usual expectations, below socially acceptable standards, or life threatening.

*How has your grooming been lately? How often do you take showers? Has anyone (parents/ staff) complained about your grooming or dress? Do you eat regular meals?*

**14. DISORIENTATION** - does not comprehend situations or communications, such as questions asking during the entire interview. Confusion regarding person, place or time.

*May I ask you some standard questions we ask everybody? How old are you? What is the date? What is this place called? What year were you born? Who is the prime minister?*

Shade circles like this:    
 Not like this:

9062



# CMHEI - Brief Psychiatric Rating Scale

(page 3 of 3)



18

9062

ID:

not present    very mild    mild    moderate    moderately severe    severe    extreme severe

**15. CONCEPTUAL DISORGANIZATION** - degree to which speech is confused, disconnected, vague or disorganized. Rate tangentiality, circumstantiality, sudden topic shifts, incoherence, blocking.

**16. BLUNTED AFFECT** - restricted range in emotional expressiveness of face, voice and gestures. Marked indifference or flatness even when discussing distressing topics.

**17. EMOTIONAL WITHDRAWAL** - deficiency in client's ability to relate emotionally during interview situation. Presence of "invisible barrier" between client and interviewer. Include withdrawal apparently due to psychotic processes.

**18. MOTOR RETARDATION** - reduction in the energy level evidenced by slowed movements and speech, reduced body tone, decreased number of spontaneous body movements. Rate on the basis of observed behaviour of the patient only.

**19. TENSION** - observable physical and motor manifestations of tension, nervousness and agitation. Self-reported experiences of tension should be rated under the item "anxiety".

**20. UNCOOPERATIVENESS** - resistance and lack of willingness to cooperate with the interview. The uncooperativeness might result from suspiciousness.

**21. EXCITEMENT** - heightened emotional tone, or increased emotional reactivity to interviewer or topics being discussed, as evidenced by increased intensity of facial expressions, voice tone, expressive gestures or increase in speech quantity and speed.

**22. DISTRACTIBILITY** - degree to which observed sequences of speech and actions are interrupted by stimuli unrelated to interview. Distractibility is rated when client shows a change in the focus of attention or marked shift in gaze.

**23. MOTOR HYPERACTIVITY** - increase in the energy level evidenced by more frequent movement and/ or rapid speech.

**24. MANNERISMS/ POSTURING** - unusual and bizarre behaviour, stylized movements or acts, or any postures which are clearly uncomfortable or inappropriate.

Shade circles like this:

Not like this:

9062



**Appendix H**

**Multnomah Community Ability Scale**



ID: 

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Date (mm/dd/yy): 

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Person Completing Form: 

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Indicate Period:

Baseline       Follow-up 3

Follow-up 1     Follow-up 4

Follow-up 2

**FILL THE CIRCLE which corresponds with the consumer's functioning during the PAST 3 MONTHS except for Section 4 (Behavioural Problems), which should reflect the consumer's functioning during the PAST 9 MONTHS.**

**Section One: INTERFERENCE WITH FUNCTIONING**

This section pertains to those physical and psychiatric symptoms that make life more difficult for the consumer. Many of these can be lessened with medications but others are permanent. Regardless, rate the consumer as he/she functions with current medications and services.

1. *Physical Health:* How impaired is the consumer by his/ her physical health status?

**NOTE:** Impairment may be from chronic physical health problems and/or frequency and severity of acute illness, not from psychiatric problems.

- Extreme physical health impairment
- Marked physical health impairment
- Moderate physical health impairment
- Slight physical health impairment
- No physical health impairment

2. *Intellectual Functioning:* What is the consumer's level of general intellectual functioning?

**NOTE:** Low intellectual functioning may be due to a variety of reasons besides congenital mental deficiency: e.g. organic damage due to chronic alcohol/drug abuse, senility, trauma, etc. It should, however, be distinguished from impaired cognitive processes due to psychotic symptoms, which are covered in later questions. Rate functioning independent of psychotic symptoms.

- Extremely low intellectual functioning
- Moderately low intellectual functioning
- Low intellectual functioning
- Slightly low intellectual functioning
- Normal or above level of intellectual functioning

3. *Thought Processes:* How impaired are the consumer's thought processes as evidenced by such symptoms as hallucinations, delusions, tangentiality, loose associations, response latencies, ambivalence, incoherence, etc.?

- Extremely impaired thought processes
- Markedly impaired thought processes
- Moderately impaired thought processes
- Slightly impaired thought processes
- No impairment, normal thought processes

4. *Mood Abnormality:* How abnormal is the consumer's mood as evidenced by such symptoms as constricted mood, extreme mood swings, depression, rage, mania, etc.

**NOTE:** Rate abnormality based on range, intensity and appropriateness of mood.

- Extremely abnormal mood
- Markedly abnormal mood
- Moderately abnormal mood
- Slightly abnormal mood
- No impairment, normal mood

5. *Response to Stress and Anxiety:* How impaired is the consumer by inappropriate and/or dysfunctional responses to stress and anxiety?

**NOTE:** Impairment could be due to inappropriate responses to stressful events (e.g. extreme responses or no response to events that should be of concern) and/or difficulty in handling anxiety as evidenced by agitation, perseveration, inability to problem-solve, etc.

- Extremely impaired response
- Markedly impaired response
- Moderately impaired response
- Slightly impaired response
- Normal response

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Not like this: <input type="radio"/>	<input type="radio"/>



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**Section Two: ADJUSTMENT TO LIVING**

This section pertains to how the consumer functions in his/her daily life and how he/she has adapted to the disability of mental illness. Rate behavior, not potential.

6. *Ability to Manage Money:* How successfully does the consumer manage his/her money and control expenditures?

- Almost never manages money successfully
- Seldom manages money successfully
- Sometimes manages money successfully
- Manages money successfully a fair amount of the time
- Almost always manages money successfully

7. *Independence in Daily Life:* How well does the consumer perform independently in day to day living

**NOTE:** Performance includes personal hygiene, dressing appropriately, obtaining regular nutrition, and housekeeping.

- Almost never performs independently
- Often does not perform independently
- Sometimes performs independently
- Often performs independently
- Almost always performs independently

8. *Acceptance of Illness:* How well does the consumer accept (as opposed to deny) his/ her illness?

- Almost never accepts illness
- Infrequently accepts illness
- Sometimes accepts illness
- Accepts illness a fair amount of the time
- Almost always accepts illness

**Section Three: SOCIAL COMPETENCE**

This section pertains to the capacity of the consumer to engage in appropriate interpersonal relations and cultural meaningful activities.

9. *Social Acceptability:* In general, what are people's reactions to the consumer:

- Very negative
- Fairly negative
- Mixed, mildly negative to mildly positive
- Fairly positive
- Very positive


10. *Social Interest:* How frequently does the consumer initiate social contact or respond to others' initiation of social contact:



- Very infrequently
- Fairly infrequently
- Occassionally
- Fairly frequently
- Very frequently

11. *Social Effectiveness:* How effectively does he/ she interact with others?

**NOTE:** "Effectively" refers to how successfully and appropriately the client behaves in social settings, i.e., how well he or she minimizes interpersonal friction, meets personal needs, achieves personal goals in a socially appropriate manner, and behaves prosocially.

- Very ineffectively
- Ineffectively
- Mixed or dubious effectiveness
- Effectively
- Very effectively

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Not like this:  





ID: 

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12. *Social Network*: How extensive is the consumer's social support network?

**NOTE:** A support network may consist of family, friends, acquaintances, professionals, coworkers, socialization programs, etc. Note: How extensive the network is does not depend on the social acceptability of the sources.

- Very limited network
- Limited network
- Moderately extensive network
- Extensive network
- Very extensive network

13. *Meaningful Activity*: How frequently is the consumer involved in meaningful activities that are satisfying to him or her?

**NOTE:** Meaningful activities might include arts and crafts, reading, going to a movie, etc.

- Almost never involved
- Seldom involved
- Sometimes involved
- Often involved
- Almost always involved

**Section Four: BEHAVIOURAL PROBLEMS**

This section pertains to those behaviours that make it difficult for the consumer to integrate successfully in the community or comply with his/her prescribed treatment. **NOTE:** Rate consumer's current behaviour, considering as appropriate events during the PAST 9 MONTHS.

14. *Medication Compliance*: How frequently does the consumer comply with his/ her prescribed medication regimen?

**NOTE:** This question does not relate to how much those medications help your client.

- Almost never complies
- Infrequently complies
- Sometimes complies
- Usually complies
- Almost always complies

15. *Cooperation with Treatment Providers*: How frequently does the consumer cooperate as demonstrated by, for example, keeping appointments, complying with treatment plans, and following through on reasonable requests?

- Almost never cooperates
- Infrequently cooperates
- Sometimes cooperates
- Usually cooperates
- Almost always cooperates

16. *Alcohol/Drug Abuse*: How frequently does the consumer abuse drugs and/or alcohol?


**NOTE:** "Abuse" means to use to the extent that it interferes with functioning.



- Frequently abuses
- Often abuses
- Sometimes abuses
- Infrequently abuses
- Almost never abuses

17. *Impulse Control*: How frequently does the consumer exhibit episodes of extreme acting out?

**NOTE:** Acting out refers to such behavior as temper outbursts, spending sprees, aggressive actions, suicidal gestures, inappropriate sexual acts, etc.

- Frequently acts out
- Acts out fairly often
- Sometimes acts out
- Infrequently acts out
- Almost never acts out

Shade circles like this: 

Not like this:  

**Appendix I**  
**Perceived Social Support Scale**

### Perceived Social Support

I'm going to read you some statements about your relationships with others. For each, could you please tell me whether you strongly disagree, disagree, agree, or strongly agree.

1. If something went wrong, no one would help me.	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
2. I have family and friends who help me feel safe, secure and happy.	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
3. There is someone I trust whom I could turn to for advice if I were having problems.	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
4. There is no one I feel comfortable talking about problems with.	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
5. I lack intimacy with another person.	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
6. There are people I can count on in an emergency.	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A

**Appendix J**  
**Rosenberg Self-Esteem Scale**

## ROSENBERG INVENTORY

For each item, indicate the extent of your agreement or disagreement with the statement using the scale below:

**3      strongly agree**

**2      agree**

**1      disagree**

**0      strongly disagree**

- \_\_\_\_\_ 1. On the whole, I am satisfied with myself.
- \_\_\_\_\_ 2. At times, I think I am no good at all.
- \_\_\_\_\_ 3. I certainly feel useless at times.
- \_\_\_\_\_ 4. I feel that I have a number of good qualities.
- \_\_\_\_\_ 5. I feel that I am a person of worth, at least on an equal plane with others.
- \_\_\_\_\_ 6. All in all, I am inclined to feel that I am a failure.
- \_\_\_\_\_ 7. I am able to do things as well as most other people.
- \_\_\_\_\_ 8. I feel I do not have much to be proud of.
- \_\_\_\_\_ 9. I wish I could have more respect for myself.
- \_\_\_\_\_ 10. I take a positive attitude toward myself.

**Appendix K**  
**Recruitment Script**

**SCRIPT FOR STAFF**

**(to ask permission for researcher to approach client)**

The Community Integration Program is part of a research study that is looking at the kinds of services we provide to clients and how they affect clients in their daily lives. The Community Integration Program is working with researchers from the Schools of Nursing and Rehabilitation and Queen's University on this study.

The researchers are interested in talking to people like yourself who have received services from Community Integration Program. They would like to ask you some questions about your daily life.

If it is O.K. with you, I will give Julienne Patterson, who is a researcher with the project, your name so that she can contact you to explain more about the study. It is completely up to you if you would like to meet with Julienne. If you say no, it won't affect any of the services you receive in any way.

**SUPPLEMENTARY INFORMATION**  
(in response to subject questions/concerns)

Participating in the study will not cost you anything. Any expenses, such as travel expenses, will be covered by the research project.

The meetings for this study will take place in a private room at the Community Integration Program or in your own home, whichever you prefer.

You can decide not to participate in this study at any time.

People will be paid a small amount for participating in the study

-----  
**TO BE FILLED OUT BY STAFF MEMBER**

Client name \_\_\_\_\_ CB# \_\_\_\_\_

Date study discussed \_\_\_\_\_

Agree to meet with researcher Yes \_\_\_\_\_

Preferred means of contact (please include phone number if the client would like to be contacted by telephone)

**Appendix L**  
**Consent Form**  
**Ethics Authorization**





SCHOOL OF NURSING  
90 Barrie Street  
Tel 613 545-2668  
Fax 613 545-6770

Queen's University  
Kingston, Canada  
K7L 3N6

## Client Consent Form

### Title of Project

Variations on Assertive Community Treatment: A study of approaches and client outcomes of four teams in south eastern Ontario.

### Details of the study

My name is (name of research assistant) and I am working on a research study with (name of service) and two researchers from the Faculty of Health Sciences at Queen's University, Shirley Eastabrook from Nursing and Terry Krupa from Rehabilitation Therapy.

The purpose of this research study is to help us understand how services such as (name of program) may or may not be helpful to people who have had long term mental health problems.

We are asking you to take part in this study because you are in the (name of program).

### What's involved?

One of the research assistants with this study will contact you to set up a time and place for the interview. The research assistant will ask you questions from several different questionnaires. The questions will ask about things you do in your daily life. It is expected that the questionnaires can be completed over two interviews for a total time of one to one and a half hours. A break will be built into the interviews, but you can have additional breaks if you feel that you need them.

---

*A partner in the Faculty of Health Sciences*

*People with a distinctive spirit of inquiry and service, working together towards a healthier future  
for our community and the world.*

Your case manager from (name of service) will also be interviewed. If you withdraw your consent for this study then the case manager will not be interviewed.

This is a three year study, and if you are willing to be involved then we will interview you once a year for three years.

Participation in this study should not cost you anything. You will be given the money to cover any travel costs that you may have as a result of participating.

Any travel expenses you have related to participating in this study will be covered. You will be paid ten dollars for each year you participate in the interviews. This is a small amount of money to recognise the time and effort you put in to help complete the study.

### **Risks**

No risks are expected from taking part in this study. Some people may feel more nervous during an interview. If you feel uncomfortable during the interview please let the research assistant know. You can take a break, or meet at another time. You can decide to end your participation in the study. If there is any question you do not wish to answer, just tell the research assistant to skip it.

### **Benefits**

You may not benefit directly from this study. What we learn from talking with you may help others who receive services in the future. A possible benefit for you is the chance to talk to someone about things that are important to you.

### **Confidentiality**

Any information that you give for this study is confidential. Your case managers and the other staff of the name of service will not be told. Instead of your name, a code number will be used to identify the information you give us. The information will be kept in a locked storage space at Queen's University in the School of Rehabilitation Therapy. Any research reports

that come from this study will not identify you in any way. The reports will be written about everyone that takes part in the study, as a group.

A portion of the information collected in this study will be shared with a Multisite Coordinating Centre based in the Health Systems Research Unit of the Clarke Institute in Toronto. The Multisite project will be comparing information from a number of research projects. All identifying information will be replaced with a confidential code before it is transferred to the Centre. Only group results will be reported.

### **Voluntary Participation**

It is your decision if you want to take part in this study. You can change your mind and leave the interview at any time. This will in no way affect the services you receive at (name of service). You will still receive the best care they can provide.

### **Participation statement**

Someone has read the above information to me. I understand what is involved in the study. My questions have all been answered. I have had enough time to think about whether I want to take part. I am signing this form voluntarily (on my own). I know that I can change my mind and not take part at any time. I will still receive the best care available. If I have more questions I will call:

Name of research assistant at phone number

or

Dr. Shirley Eastabrook at 545-2669

or

Professor Terry Krupa at 545-6236

If I have any concerns about the multi-site study I will call:

Janet Durbin at (416)-979-4747 (extension 2437)

If I am at all concerned about the study I will call:

Dr. Sandra Olney, the head of the School of Rehabilitation Therapy at 545-7318

**By signing this consent form, I am showing that I agree to take part in this study. I have a copy of this form that I can keep.**

---

**Signature of participant**

**Date**

---

**Name of Participant (Please print)**

**I have carefully explained to this person the nature of the research study. I certify that, to the best of my knowledge, the person understands clearly the nature of the study and demands, benefits and risks involved to participants in this study.**

---

**Signature of investigator**

---

**Date**

DEPARTMENT OF PSYCHOLOGY PROPOSAL FOR RESEARCH WITH HUMAN PARTICIPANTS

PLEASE SUBMIT **TWO** COPIES OF THIS FORM AND **TWO** COPIES OF THE SUPPORTING MATERIALS TO THE ETHICS COMMITTEE (B550 LOEB BLDG). **PLEASE CONSULT ETHICS MEMO (IN B552) BEFORE SUBMISSION. FAILURE TO FOLLOW MEMO GUIDELINES WILL DELAY APPROVAL.**

1. Date of this submission: February, 1999

Faculty Sponsor: Dr. Robert Hoge Phone: 520-5773 EMAIL: bhoge@css.carleton

Principal Investigator: Pamela Prince Phone: 345-1461 EMAIL: pamelaprince@netscape.net

Other research personnel:

Project title: Perceived stigma and Community Integration Among People with Serious Mental Illness served by Assertive Community Treatment Teams  
Type of research (e.g., Faculty, M.A. thesis, Honours thesis): PhD thesis

Approximate starting and completion dates: February 1999 - August 1999

Approximate length of testing session(s): 120 - 180 minute interviews

2. Number, age, and source (e.g., 49.100 students) of participants: 150 Adult clients with Serious Mental Illness  
NOTE: If participants are being recruited from an organization outside of Carleton University attach a copy of their permission and/or their Ethics Committee approval. LOEB INSTITUTE QUEEN'S UNIVERSITY } ENCLOSED

3. Will participants be paid or given course credit? Yes NOTE: A maximum of 2 credit hours can be applied toward 49.100

4. Check list: Are the following included?

- Description of Purpose  YES NO N/A
- Procedure (including materials)  YES NO N/A
- Informed Consent  YES NO N/A
- Written Debriefing  YES NO  N/A
- Announcement for Recruiting  YES NO N/A

5. Does the study involve anything that might cause participants anxiety, pain or embarrassment?  YES NO

If yes, attach a description of the precautions taken to safeguard the participant's interest. See consent form

6. Does the study involve deception? YES  NO

If yes, attach a description of the nature of the deception and the steps that will be taken to protect, inform and debrief the participants.

We (I) acknowledge that participants will be treated in accordance with the ethical guidelines of the Canadian Psychological Association. In accordance with the CPA ethical guidelines, we (I) acknowledge that it is our (my) responsibility to respect COPYRIGHT laws.

Principal Investigator: [Signature] Project Supervisor: R. Hoge

The Department Ethics Committee has approved  
Date: MARCH 12/99 Chair: Mary Ann

**Appendix M**  
**Supplemental Tables**

Table M1.

Means (SD), Percentages, Ranges, and Comparative Tests, for Demographic Characteristics of Study Participants and Non-participants, Excluding Participants from the ACCT Program.

Variable	Participants (n = 80)	Non-participants (n = 218)	Test
Age	Mean = 43.1 SD = 9.4 Range = 20 - 67	Mean = 43.3 SD = 11.4 Range = 20 - 77	$t(1, 293) = -.13,$ $p = .89$
Gender	62.5% - male 37.5% - female	59.6% - male 40.4% - female	$X^2(1, 1) = .20,$ $p = .65$
Education	7.5% - elementary 42.5% - some secondary 18.8% - secondary 16.3% - some post- secondary 8.8% - post- secondary 6.3% - unknown	9.6% - elementary 40.4% - some secondary 21.1% - secondary 15.6% - some post- secondary 6.4% - post- secondary 6.8% - unknown	$X^2(1, 5) = .84,$ $p = .97$
Marital Status	60.0% - single 5% - married 2.5% - cohabiting 7.5% - separated 20.0% - divorced 3.8% - widowed 1.3% - unknown	68.8% - single 10% - married 1.8% - cohabiting 6.8% - separated 10% - divorced 1.4% - widowed 1% - unknown	$X^2(1, 6) = 8.79,$ $p = .19$
Diagnosis	70.0% - schizophrenia 18.8% - mood 3.8% - personality 7.5% - other	73.4% - schizophrenia 11% - mood 5.5% - personality 10% - other	$X^2(1, 3) = 3.55,$ $p = .31$

Table M1.  
(cont'd.)

Time in ACT (months)	Mean = 49.1 SD = 33.9 Range = 1 - 104	Mean = 43.2 SD = 29.4 Range = 1 - 104	$t(1, 296) = 1.45,$ $p = .15$
Hospital Days (prior to ACT)	Mean = 204.0 SD = 263 Range = 0 - 1095	Mean = 281.4 SD = 341 Range = 0 - 1095	$t(1, 296) =$ $-1.86,$ $p = .06$

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<sup>1</sup> Comparison based on 80 participants and 215 non-participants.



Table M2.

Percentage (Mean, SD, Range) of ACT Study Participants who Reported Having Someone with Whom They Felt at Ease to Discuss Personal Issues (n = 94).

Type of Confidant	Percentage	Mean (SD)	Range
Friends	62.1% - yes 37.9% - no	1.7 (2.4)	0 - 15
Partner	23% - yes 77% - no	.22 (.42)	0 - 4
Family	64.8% - yes 35.2% - no	1.8 (2.2)	1 - 13
Care Providers	87.4% - yes 12.6% - no	2.5 (1.94)	1 - 9
Spiritual	25.3% - yes 74.7% - no	0.3 (0.6)	1 - 2
Total	92.6% - yes 7.4% - no	6.5 (5.0)	0 - 29
Consumers <sup>1</sup>	51.6% - yes 48.4% - no	1.01 (1.63)	0 - 11

<sup>1</sup> Refers to confidants listed above who are also consumers of mental health services.

Table M3.

Stepwise Regression of Physical Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 90).

Variables	<u>B</u>	SE <u>B</u>	<i>B</i>	<u>R</u> <sup>2</sup> change	<u>F</u> change
Psychosocial Functioning	.24	.07	.32	.17	18.22***
Perceived Support	.55	.19	.29	.08	8.70**

Total Equation

R<sup>2</sup> = .25 (Adjusted R<sup>2</sup> = .23)

R = .50, F(2, 87) = 14.25\*\*\*

Intercept = -11.88

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Table M4.

Step 4 of Sequential Multiple Regression of Social Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 91).

Variables	<u>B</u>	SE <u>B</u>	<i>B</i>	<i>t</i>	<u>sr</u> <sup>2</sup>
Gender	-1.24	1.96	-.07	-.63	.00
Age	-.12	.10	-.12	-1.22	.01
Psychiatric Symptoms	.22	.09	.27	2.42*	.05
Psychosocial Functioning	.02	.12	.02	.15	.00
Perceived Support	.78	.33	.27	2.40*	.06
Perceived Stigma	-.20	.09	-.22	-2.20*	.05

Total Equation

R<sup>2</sup> = .18 (Adjusted R<sup>2</sup> = .12)

R = .42, F(6, 84) = 2.97\*\*

Intercept = 15.91

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Table M5.

Stepwise Regression of Social Integration (DV) on Reduced Variable Set, Including Gender, Age, Psychosocial Functioning, Perceived Support (Control Variables), Perceived Stigma (IV), and Excluding Psychiatric Symptoms (n = 92).

Variables	<u>B</u>	SE <u>B</u>	<i>B</i>	<u>R</u> <sup>2</sup> change	<u>F</u> change
Perceived Support	.70	.24	.24	.06	5.51*

Total Equation

R<sup>2</sup> = .06 (Adjusted R<sup>2</sup> = .05)

R = .24, F(1, 90) = 5.51\*

Intercept = 12.96

\* p < .05

\*\* p < .01

\*\*\* p < .001

Table M6.

Stepwise Regression of Psychological Integration (DV) on Gender, Age, Psychiatric Symptoms, Psychosocial Functioning, Perceived Support (Control Variables), and Perceived Stigma (IV) (n = 82).

Variables	<u>B</u>	<u>SEB</u>	<i>B</i>	<u>R<sup>2</sup>change</u>	<u>Fchange</u>
Perceived Support	.25	.09	.28	.13	12.26***
Perceived Stigma	-.08	.03	-.26	.06	6.04*
Psychosocial Functioning	.09	.04	.27	.07	7.00**

Total Equation

$$\underline{R}^2 = .26 \text{ (Adjusted } \underline{R}^2 = .23)$$

$$\underline{R} = .51, F(3, 78) = 9.18***$$

$$\text{Intercept} = .59$$

- \*  $p < .05$   
 \*\*  $p < .01$   
 \*\*\*  $p < .001$